#### **OCTOBER 2, 2014**

## AGENDA ITEM 5 INFORMATION ITEM

#### SCHOLARSHARE INVESTMENT BOARD

Review and Analysis of Investment Performance for the ScholarShare Plan for Second Quarter 2014

#### Background

The ScholarShare Investment Board (SIB or Board) and its investment consultant, Pension Consulting Alliance, Inc. (PCA), monitor all portfolios in the ScholarShare College Savings Plan (Plan) in accordance with the ScholarShare Monitoring Procedures and Criteria adopted by the Board.

In this item, SIB will review and discuss PCA's "Investment Performance Status Report" (Exhibit A) for the second quarter of 2014. PCA's report compares each underlying fund allocated to the portfolios used in the Plan, to applicable benchmark criteria and labels the current status of funds as "positive," "acceptable," "caution," or "watch."

For the second quarter of 2014:

- Twelve underlying funds were in the "positive" status,
- Seven underlying funds were in the "acceptable" status, and
- No underlying funds were in "caution" status or "watch" status.

As outlined in its memo (Exhibit B), PCA is not recommending any underlying funds to be placed on "watch" status at this time. TIAA-CREF Tuition Financing, Inc. has also provided an "Investment Performance Report" for the Plan for second quarter 2014 (Exhibit C).

#### **Presenters**

Eric White, Principal, Pension Consulting Alliance, Inc.

Kay Ceserani, Principal, Pension Consulting Alliance, Inc.

Jeremy Thiessen, Senior Director, Education Savings, TIAA-CREF Tuition Financing, Inc.

#### **OCTOBER 2, 2014**

## AGENDA ITEM 5 INFORMATION ITEM

#### SCHOLARSHARE INVESTMENT BOARD

Review and Analysis of Investment Performance for the ScholarShare Plan for Second Quarter 2014

#### Background

The ScholarShare Investment Board (SIB or Board) and its investment consultant, Pension Consulting Alliance, Inc. (PCA), monitor all portfolios in the ScholarShare College Savings Plan (Plan) in accordance with the ScholarShare Monitoring Procedures and Criteria (Procedures) adopted by the Board on March 14, 2013.

In this item, SIB will review and discuss PCA's "Investment Performance Status Report" (Exhibit A) for the second quarter of 2014. PCA's report compares each underlying fund allocated to the portfolios used in the Plan, to applicable benchmark criteria and labels the current status of funds as "positive," "acceptable," "caution," or "watch."

For the second quarter of 2014:

- Twelve underlying funds were in the "positive" status,
- Seven underlying funds were in the "acceptable" status, and
- No underlying funds were in "caution" status or "watch" status.

TIAA-CREF Tuition Financing, Inc. has also provided an "Investment Performance Report" for the Plan for second quarter 2014 (Exhibit C).

Recent market changes necessitate the recommendation of SIB staff, TFI and PCA to place three of the Plan's underlying funds on "watch" status in accordance with the Procedures. Refer to attached recommendations from PCA and TFI.

#### **Presenters**

Allan Emkin, Managing Director, Pension Consulting Alliance, Inc.

Eric White, Principal, Pension Consulting Alliance, Inc.

Jeremy Thiessen, Senior Director, Education Savings, TIAA-CREF Tuition Financing, Inc.



Date: October 1, 2014

**To:** ScholarShare Investment Board (SIB)

From: Eric White, CFA - PCA; Kay Ceserani - PCA

RE: PIMCO Organizational Changes – "Watch" Recommendation

#### Recommendation

Given the significant organizational changes at PIMCO, PCA recommends that the SIB take the following actions in accordance with the ScholarShare Monitoring Procedures:

1. Place the three PIMCO funds (PIMCO Total Return Fund, PIMCO Income Institutional Fund, and PIMCO Real Return Fund) in the ScholarShare program on "watch status" to be closely monitored and, if conditions warrant, take timely action to resolve the issue at hand (including the potential replacement of a fund(s) with a suitable alternative)."

#### **Summary**

It was announced on, September 26, 2014, that Bill Gross, founder and CIO of PIMCO, was leaving the firm and joining Janus Capital. Mr. Gross was the lead portfolio manager for the PIMCO Total Return strategy (over \$400 billion in assets) and PIMCO Unconstrained Bond Fund (over \$35 billion in assets). As of June 30, 2014, PIMCO managed over \$1.6 trillion in assets.

As of September 24, 2014, the ScholarShare program had approximately \$465 million in assets invested with PIMCO (\$262 million in the Total Return strategy, \$111 million in the PIMCO Income Institutional Fund, and \$93 million in the PIMCO Real Return Fund.) All three of these funds are underlying funds in the active age base fund options and the multi-fund investment portfolios (static fund options).

Mr. Gross has been the lead portfolio manager for PIMCO's flagship strategy (PIMCO Total Return) for over 40 years while also managing the firm and setting its culture. His departure is, therefore, a watershed event. He touched most, if not all, of the fixed income strategies run by the firm. We believe this transition is material. PIMCO has



enormous resources and a deep pool of investment talent, but the immediate implications of the departure of Mr. Gross, in our opinion, are potentially profound. Due to the size of PIMCO's liquid fixed income strategies in the marketplace, and derivative-heavy implementation, liquidations from their strategies may cause market disruptions.

PIMCO is a highly-regarded organization, with outstanding talent beyond Mr. Gross. However, there is an increased level of uncertainty around those mandates for which Mr. Gross served as lead portfolio manager. PCA believes there are better options available for these areas, and recommends transitioning these mandates to new management. At a minimum, PCA recommends that clients put PIMCO on "Watch" at the organizational level.



DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc.

CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.

FTSE is a trademark of the London Stock Exchange Group companies and is used by FTSE under license. All rights in the FTSE indices and/or FTSE ratings vest in FTSE and/or its licensors. No further distribution of FTSE data is permitted with FTSE's express written consent.



Date: October 1, 2014

To: ScholarShare Investment Board (SIB)

From: Jeremy Thiessen, TIAA-CREF Tuition Financing Inc. (TFI)

**Subject: Recommendation for PIMCO Funds** 

#### Summary

As a result of PIMCO's announcement on September 26, 2014 of the departure of Bill Gross, the firm's co-founder, Chief Investment Officer (CIO) and Portfolio Manager of the PIMCO Total Return Fund, SIB's investment consultant, PCA, is recommending the following funds be placed on "Watch" status:

- PIMCO Total Return Fund
- PIMCO Income Fund
- PIMCO Real Return Fund

TFI concurs with these recommendations, and seeks the latitude from the SIB to replace any of the funds on Watch with another actively managed bond fund given the unique nature of the PIMCO situation. This action would be conducted in concert with PCA and SIB Staff and at the time deemed necessary based on market conditions.



#### Background

On Friday, September 26, 2014, PIMCO announced the departure of Bill Gross, its CIO, co-founder, and Portfolio Manager of the PIMCO Total Return Fund. It was further detailed that Mr. Gross would be joining Janus Funds on Monday, September 29, 2014. As a result, the SIB's investment consultant, PCA, recommends the three PIMCO funds utilized by the Program be placed on "Watch" status.

ScholarShare Exposure to PIMCO Funds
As of September 24, 2014

Underlying Fund	ScholarShare Portfolio	Market Value
Onderlying Fund	Scholar Share Portiono	
		(\$mil)
PIMCO Income Fund	Active Age-Based Portfolios	\$97.6
	Active Multi-Fund Investment Portfolios	\$13.8
PIMCO Income Fund – Total		\$111.3
		_
PIMCO Real Return	Active Age-Based Portfolios	\$80.9
	Active Multi-Fund Investment Portfolios	\$11.9
PIMCO Real Return – Total		\$92.8
PIMCO Total Return	Active Age-Based Portfolios	\$229.1
	Active Multi-Fund Investment Portfolios	\$32.7
PIMCO Total Return – Total		\$261.9
Total PIMCO Exposure		\$466.0

As seen in the table above, ScholarShare has approximately \$466 million invested across three PIMCO funds. The largest exposure is to the PIMCO Total Return Fund, which has an approximate market value of \$262 million. In addition, the largest concentration of PIMCO funds is in the Active Age-Based Portfolios.

Given the risks and complexities of this unique situation with PIMCO, TFI seeks the latitude from the SIB to replace any of the PIMCO funds on Watch with another actively managed bond fund. This action would be conducted in concert with PCA and SIB Staff and at the time deemed necessary based on market conditions. Under these circumstances, TFI will work immediately to transition the funds, as well as prepare and deliver all required disclosure materials.

Finally, it is our understanding that the actions expected to be taken by the Board are in keeping with the Golden State ScholarShare College Savings Trust Monitoring Procedures and Criteria (Monitoring Procedures) established by the SIB. As established by the Monitoring Procedures, the following actions have been or are expected to be taken:



- The Board may choose to place the underlying PIMCO funds that are the subject of this memo on Watch using quantitative or qualitative information or a combination of both.
- Once on Watch, the underlying funds will receive heightened monitoring. Specifically, TFI will provide a quarterly report explaining causes of underperformance or improvement. Additionally, PCA and SIB staff will monitor the underlying fund carefully and provide additional reports as necessary. This heightened level of monitoring should continue quarterby-quarter until the Board releases the underlying fund from Watch or takes other corrective actions.
- Members of TFI, PCA, and SIB staff have had numerous discussions relating to quantitative and qualitative information about the subject PIMCO funds, vetting the proposed actions and detailing next steps.
- All three underlying PIMCO funds are expected to be placed by the Board on Watch, after considering and discussing the qualitative and quantitative information about these funds presented to it.
- SIB should first consider funds that are offered by TFI or an affiliated entity that are appropriate substitutes for the fund that is being replaced.

#### Conclusion

TFI concurs with the recommendation by PCA to place the following funds on "Watch" status:

- PIMCO Total Return Fund
- PIMCO Income Fund
- PIMCO Real Return Fund

TFI seeks the latitude from the SIB to replace any of the PIMCO funds on Watch with another actively managed bond fund given the unique nature of the PIMCO situation. This action would be conducted in concert with PCA and SIB Staff and at the time deemed necessary based on market conditions.



# 2Q 2014 INVESTMENT PERFORMANCE STATUS REPORT ScholarShare College Savings Plan

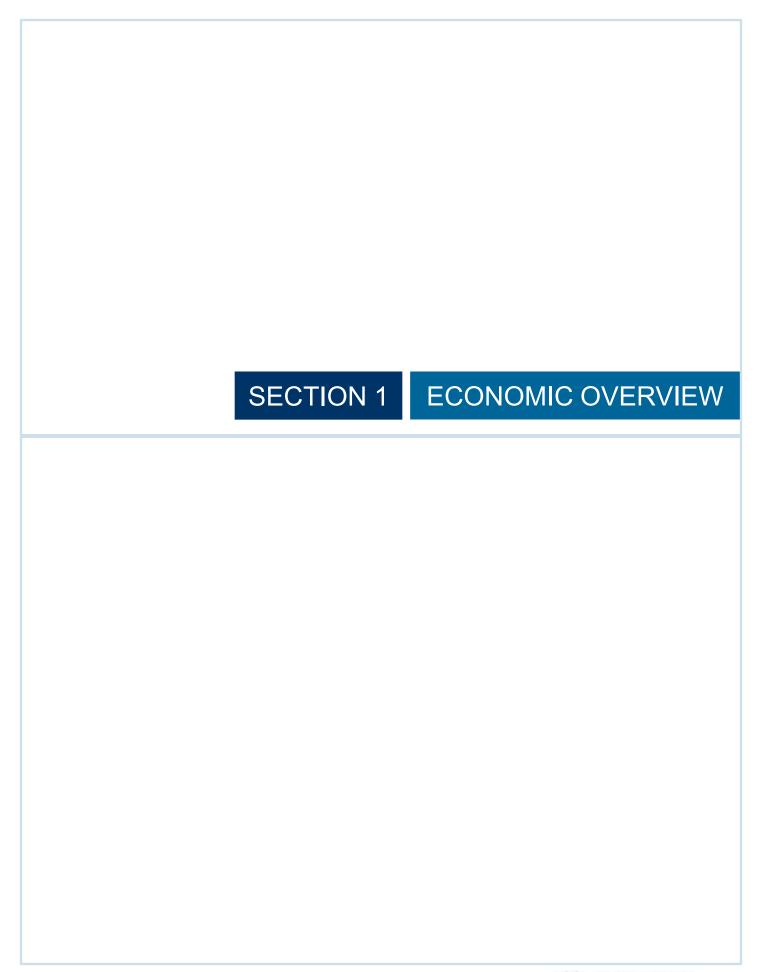


# AGENDA

<u>Se</u>	<u>ection</u>	<u>Page</u>
1.	Economic Overview	4
2.	Investment Market Risk Metrics	9
3.	Review of ScholarShare Policy	27
4.	Sensitivity Analyses	34
5.	Summary Points	56

### **TAKEAWAYS**

- U.S. Equity markets advanced in the second quarter leading to strong performance of the early age bands which have larger equity weights
- Fixed Income markets continued to rally despite the decline in bond purchases by the Federal Reserve which lead to positive returns for latter age bands that have larger allocations to fixed income
- Real Estate increased in value leading to double digit positive performance for the TIAA-CREF Real Estate fund over the last 12-month period
- Interest rate risk increased in the quarter portending possibly lower returns for the Plan's fixed income funds



**Overview:** After a relatively slow start to the quarter, equity markets continued their upward climb while largely ignoring geopolitical events such as Russia's seizure of Crimea, disintegration in Iraq, and violence in the Middle East. Economic data continued to come in benign. GDP exceeded expectations during the quarter, increasing at an annualized rate of 4.0% fueled most notably by upturns in exports, private nonfarm inventory, and consumer spending. Unemployment fell by 0.6% to 6.1% as 793,000 jobs were added during the quarter. With various economic indicators showing some improvement, the Fed has continued to scale back its monthly bond purchases and indicated they will remain patient in their approach to raising interest rates. Inflation increased over the trailing 12-month period to just over 2.0% for the first time since 2011 but is still at relatively low levels. Returns for developed Non-US equity markets were led by Canada and produced strong results across the board. Emerging market equities also increased during the quarter, benefiting from a growing US economy and continued stimulus in Europe and Japan. US bond markets delivered positive returns during the quarter led by longer duration bonds and supported by falling long-term interest rates.

#### **Economic Growth**

- Real GDP increased at an annualized rate of 4.0 percent in the second quarter of 2014 after decreasing at an annualized rate of (2.1) percent in the first quarter of 2014.
- An upturn in exports, private nonfarm inventory investment, and consumer spending, were the main drivers for GDP arowth during the quarter.
- State and local government spending, residential investment and business investment also benefited GDP during the quarter.

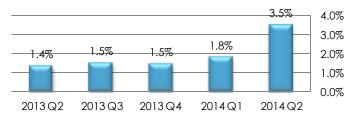
### Annualized Quarterly GDP Growth



#### **Inflation**

- The Consumer Price Index for All Urban Consumers (CPI-U) increased by 3.5 percent in the quarter on an annualized basis, after seasonal adjustment.
- Quarterly percent changes may be adjusted between data publications due to periodic updates in seasonal factors.
- Core CPI-U increased by 2.5 percent for the quarter on an annualized basis.
- Over the last 12 months, CPI-U increased 2.1 percent before seasonal adjustment.

#### **CPI-U After Seasonal Adjustment**



#### **Unemployment**

- The US economy gained 793,000 jobs in the quarter.
- The official unemployment rate dropped to 6.1% at quarter end.
- The majority of jobs gained occurred in professional and business services, food services & drinking places, and health care.

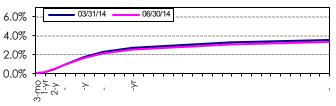
#### **Unemployment Rate**



#### **Interest Rates & US Dollar**

- US Treasury yields decreased over the quarter.
- The Federal Reserve has maintained the federal funds rate between 0.00% and 0.25% since December 2008.
- The US dollar depreciated against the Yen and Sterling by (1.8%) and (2.7%), respectively, while appreciating against the Euro by 0.6%.
- As of quarter end rates remained near low historic levels.

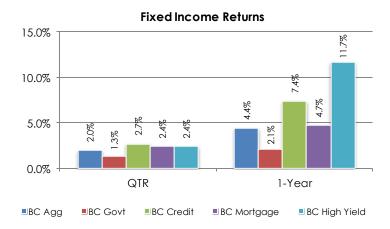
#### **Treasury Yield Curve Changes**



#### Source: US Treasury Department

#### **Fixed Income**

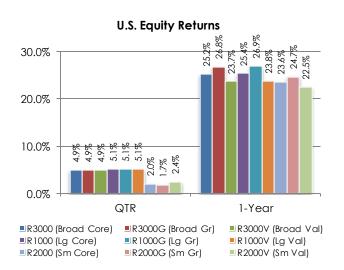
- US bond markets delivered positive returns during the quarter led by longer duration bonds and supported by falling long-term interest rates.
- The Barclays Aggregate index posted its strongest quarterly return since the second quarter of 2012.



US Fixed Income Sector Performance (BC Aggregate Index)				
Sector	Weight	QTR	1 Year	
Governments*	39.7%	1.3%	2.1%	
Agencies	5.4%	1.2%	2.6%	
Inv. Grade Credit	23.3%	2.7%	7.4%	
MBS	28.9%	2.4%	4.7%	
ABS	0.5%	0.8%	1.8%	
CMBS	2.2%	1.3%	4.2%	

#### **US Equities**

- After a relatively slow start to the quarter, US equities continued to climb and produce strong trailing 1year results of 20 plus percent.
- During the quarter, value and growth indices produced similar returns throughout large & mid-cap stocks. All sectors produced strong positive results during the quarter and trailing 1-year period.

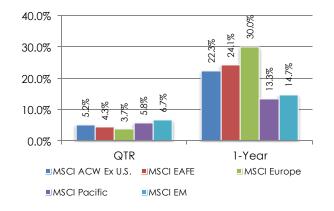


US Equity Sector Performance (Russell 3000 Index)				
Sector	Weight	QTR	1 Year	
Information Tech.	18.3%	5.7%	32.1%	
Financials	17.3%	2.4%	18.6%	
Health Care	13.0%	4.3%	30.7%	
Consumer Disc.	12.5%	3.2%	21.2%	
Industrials	11.6%	3.4%	28.9%	
Energy	9.8%	12.2%	30.8%	
Consumer Staples	8.2%	4.7%	16.2%	
Materials	3.9%	5.1%	31.3%	
Utilities	3.2%	7.8%	22.2%	
Telecomm. Serv.	2.2%	3.9%	8.2%	

#### **International Equities**

• Led by Canada, developed international equity markets returned strong results during the quarter. Emerging markets equity also performed well with their best returns in six quarters.

#### International Equity Returns (in USD)



International Equity Region Performance (in USD) (MSCI ACW Index ex US)				
Sector	Weight	QTR	1 Year	
Europe Ex. UK	32.6%	2.6%	31.7%	
Emerging Markets	21.3%	6.7%	14.7%	
United Kingdom	15.3%	6.1%	26.6%	
Japan	14.5%	6.7%	10.1%	
Pacific Ex. Japan	8.7%	4.4%	19.0%	
Canada	7.6%	10.1%	27.2%	

#### Market Summary – Long-term Performance\*

Indexes	1 Year	3 Year	5 Year	10 Year	20 Year
Global Equity					
MSCI All Country World	23.6%	10.9%	14.9%	8.0%	7.6%
Domestic Equity					
S&P 500	24.6%	16.6%	18.8%	7.8%	9.8%
Russell 3000	25.2%	16.5%	19.3%	8.2%	9.9%
Russell 3000 Growth	26.8%	16.1%	19.3%	8.3%	9.0%
Russell 3000 Value	23.7%	16.7%	19.3%	8.0%	10.3%
Russell 1000	25.4%	16.6%	19.3%	8.2%	10.0%
Russell 1000 Growth	26.9%	16.3%	19.2%	8.2%	9.2%
Russell 1000 Value	23.8%	16.9%	19.2%	8.0%	10.3%
Russell 2000	23.6%	14.6%	20.2%	8.7%	9.8%
Russell 2000 Growth	24.7%	14.5%	20.5%	9.0%	8.1%
Russell 2000 Value	22.5%	14.6%	19.9%	8.2%	11.0%
CBOE BXM	14.1%	9.1%	10.5%	5.2%	8.1%
International Equity					
MSCI All Country World ex US	22.3%	6.2%	11.6%	8.2%	6.3%
MSCI EAFE	24.1%	8.6%	12.3%	7.4%	5.9%
MSCI Pacific	13.3%	7.3%	9.7%	6.0%	2.0%
MSCI Europe	30.0%	9.3%	13.7%	8.2%	8.9%
MSCI EM (Emerging Markets)	14.7%	-0.1%	9.6%	12.3%	6.6%
Fixed Income					
BC Universal Bond	5.2%	4.2%	5.6%	5.3%	6.4%
BC Global Agg – Hedged	7.4%	2.6%	4.6%	5.1%	6.0%
BC Aggregate Bond	4.4%	3.7%	4.9%	4.9%	6.2%
BC Government	2.1%	2.9%	3.5%	4.4%	5.8%
BC Credit Bond	7.4%	5.9%	7.6%	5.8%	6.9%
BC Mortgage Backed Securities	4.7%	2.8%	3.9%	4.9%	6.1%
BC High Yield Corporate Bond	11.7%	9.5%	14.0%	9.0%	8.2%
BC W GILB - Hedged	4.4%	3.8%	5.3%	5.1%	NA
BC Emerging Markets	10.2%	7.4%	10.8%	9.5%	10.9%
Real Estate					
NCREIF (Private RE)	11.2%	11.3%	9.7%	8.6%	9.5%
NAREIT (Public RE)	13.7%	12.0%	22.9%	8.8%	10.5%
Commodity Index					
DJ-UBS Commodity  * Performance is application for period	8.2%	-5.2%	2.0%	0.9%	4.6%

<sup>\*</sup> Performance is annualized for periods greater than one year.



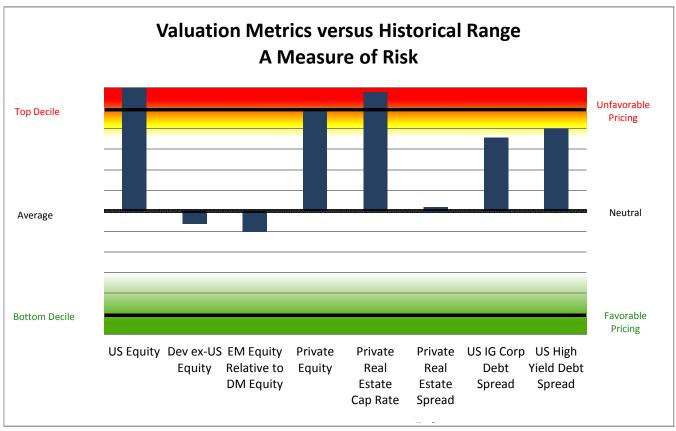
## **Takeaways**

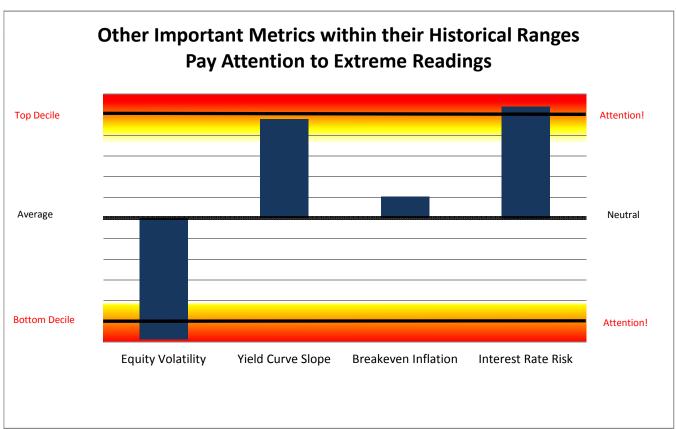
- US Equity prices continued deeper into top decile valuation territory, concurrent with equity volatility (VIX) at bottom decile (low) levels.
- In addition interest rate risk is also in ton decile territory. The 10-Year
- Credit spreads continued to tighten, but are not yet at top decile levels.
- Private real estate cap rates are at top decile levels (5.5%), with spreads to the 10 year treasury at average levels.
- However, non-US equity valuations are below long-term averages.
   Emerging market equity remains cheap historically, relative to developed markets.
- The slope of the yield curve remains steep, indicating expectations for higher future rates (versus cash rates today).
- Inflation expectations, as priced by the breakeven inflation calculation from the TIPS and Treasury bond markets, point to low and even more stable inflation.
- The PCA Market Sentiment Indicator "PMSI" continued to read green.
- With a positive U.S. jobs report and a positive Chinese manufacturing report on July 3<sup>rd</sup>, positive economic momentum continues to be in evidence.

<sup>1</sup>See Appendix for the rationale for selection and calculation methodology used for the risk metrics.

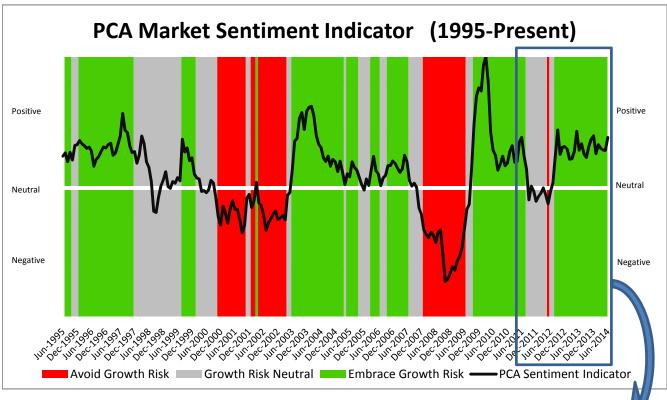


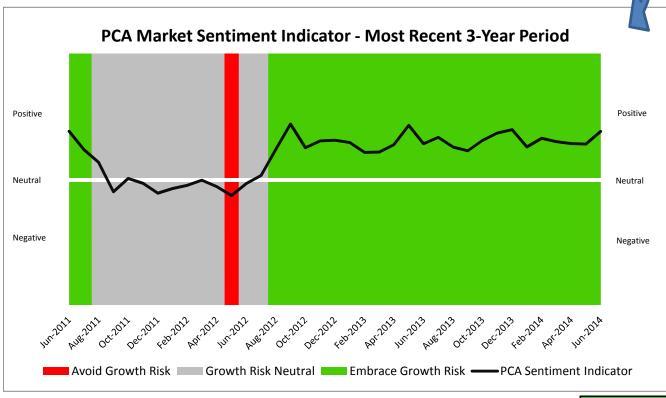
#### **Risk Overview**





#### **Market Sentiment**





Bond Spread Momentum Trailing-Twelve Months
Equity Return Momentum Trailing-Twelve Months
Agreement Between Bond Spread and Equity Spread Momentum Measures?

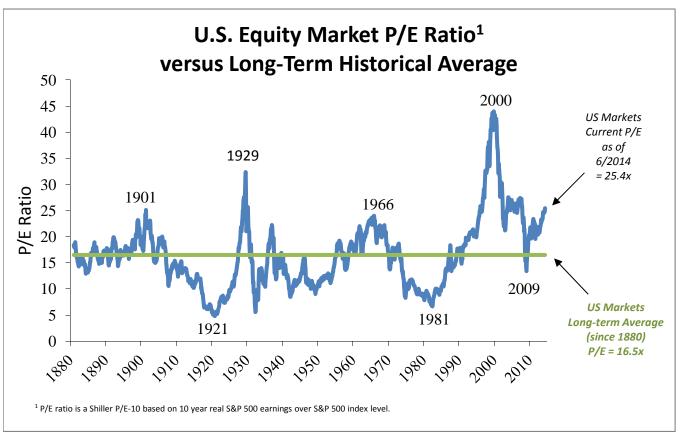
Positive
Positive
Agree



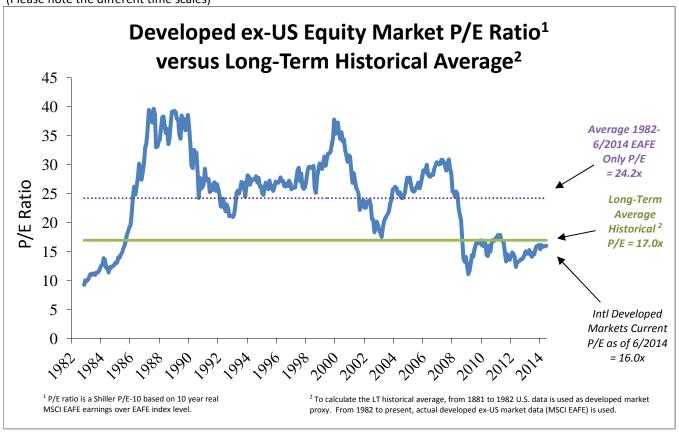
**Growth Risk Visibility (Current Overall Sentiment)** 

**Positive** 

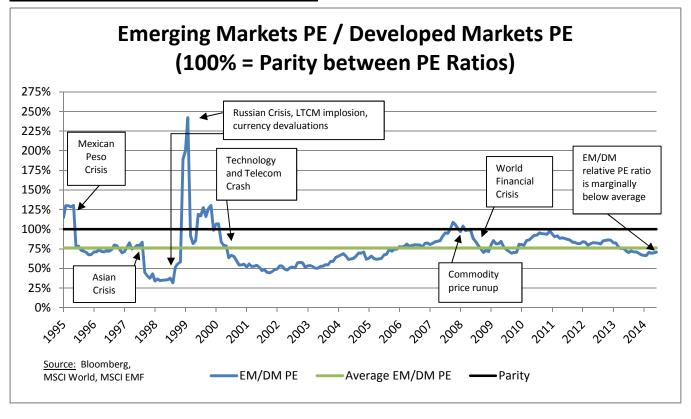
#### **Developed Public Equity Markets**



#### (Please note the different time scales)

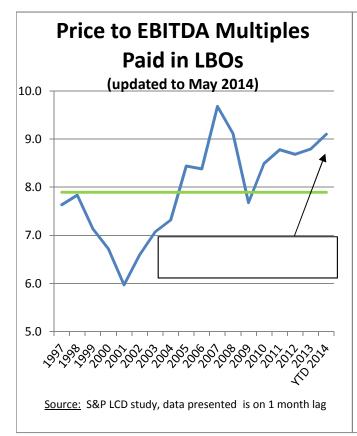


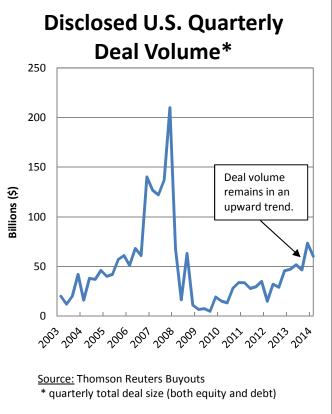
#### **Emerging Market Public Equity Markets**

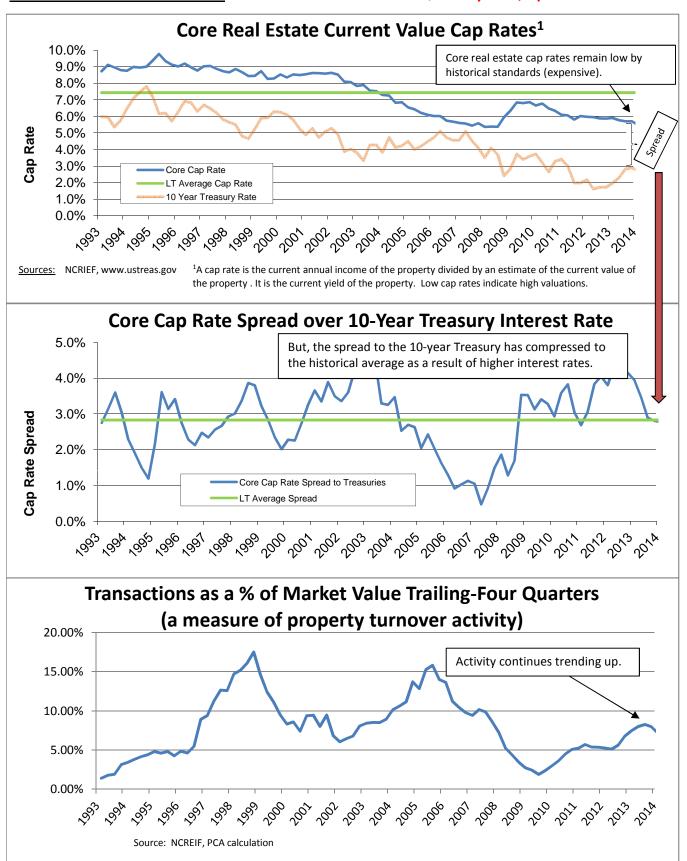


#### US Private Equity

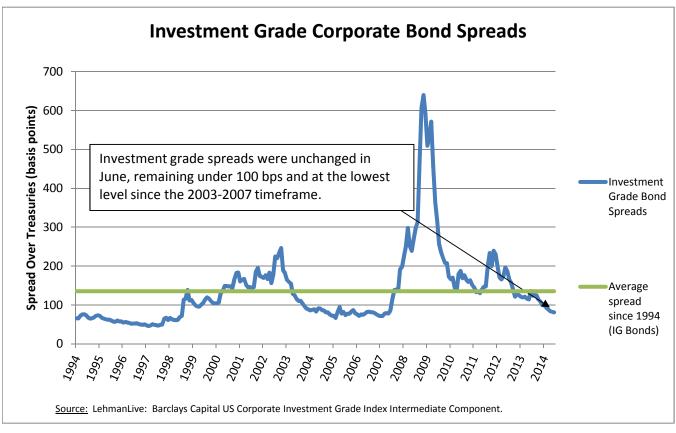
#### **Quarterly Data, Updated to March 31st**

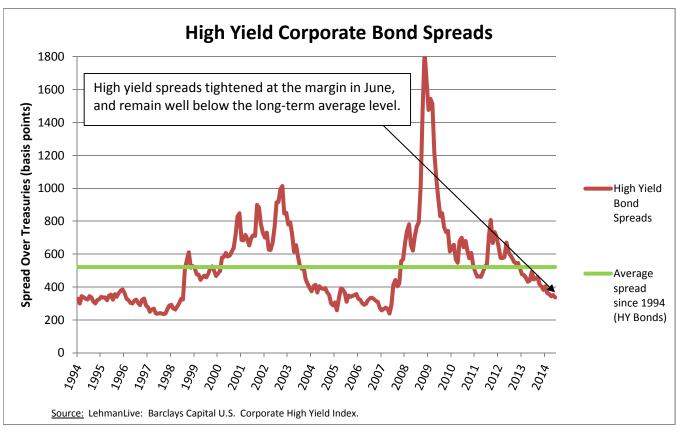




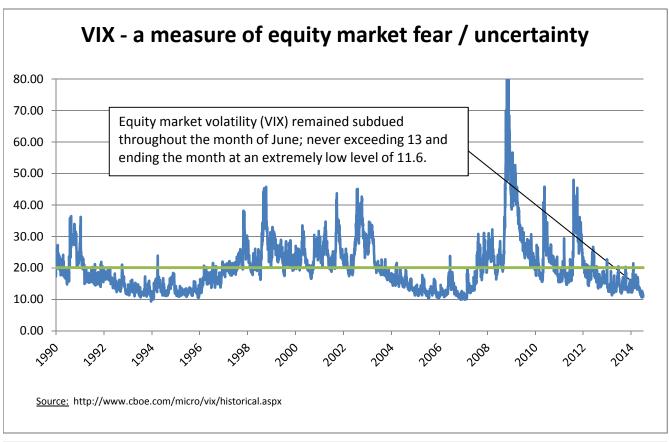


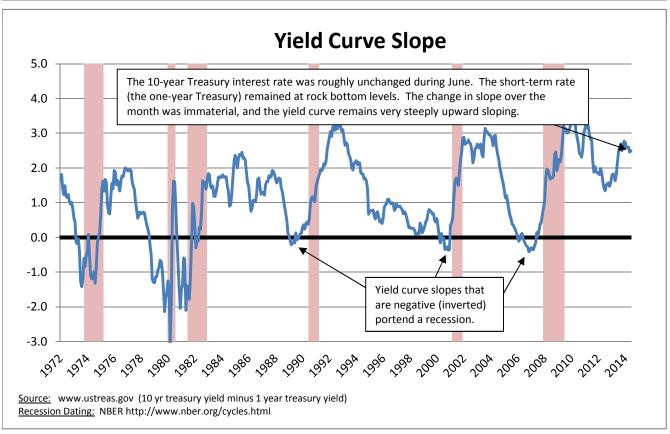
#### **Credit Markets US Fixed Income**



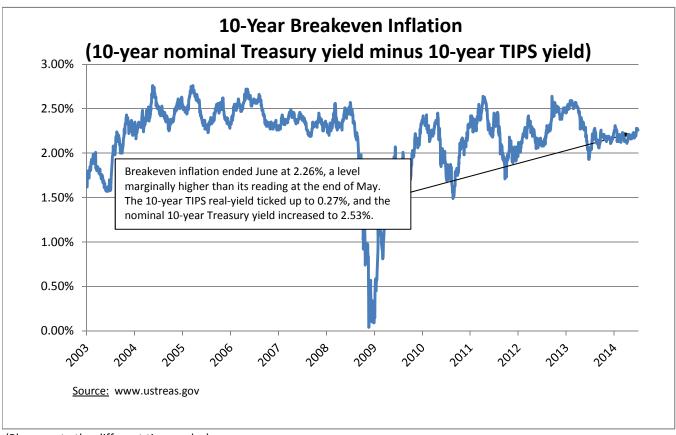


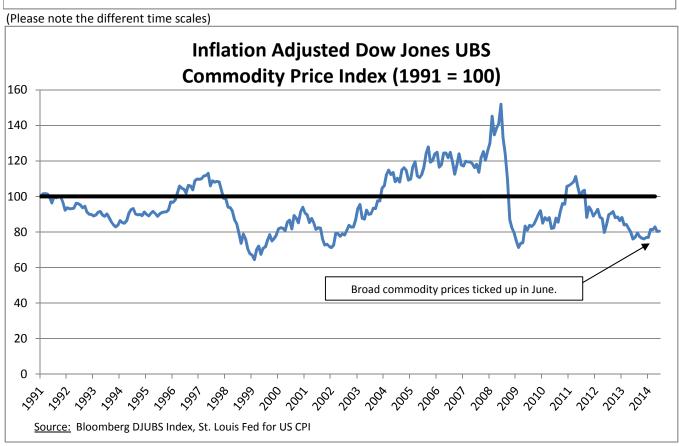
#### **Other Market Metrics**





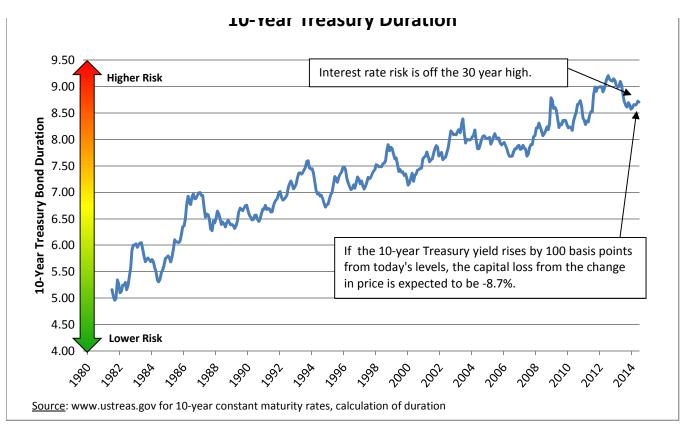
#### **Measures of Inflation Expectations**





#### Measures of U.S. Treasury Interest Rate Risk





#### METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

#### **US Equity Markets:**

Metric: P/Eratio = Price / "Normalized" earnings for the S&P 500 Index

To represent the price of US equity markets, we have chosen the S&P 500 index. This index has the longest published history of price, is well known, and also has reliable, long-term, published quarterly earnings. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the S&P 500 index). Equity markets are very volatile. Prices fluctuate significantly during normal times and extremely during periods of market stress or euphoria. Therefore, developing a measure of earnings power (E) which is stable is vitally important, if the measure is to provide insight. While equity prices can and do double, or get cut in half, real earnings power does not change nearly as much. Therefore, we have selected a well known measure of real, stable earnings power developed by Yale Professor Robert Shiller known as the Shiller E-10. The calculation of E-10 is simply the average real annual earnings over the past 10 years. Over 10 years, the earnings shenanigans and boom and bust levels of earnings tend to even out (and often times get restated). Therefore, this earnings statistic gives a reasonably stable, slow-to-change estimate of average real earnings power for Professor Shiller's data and calculation of the E-10 are available on his website at the index. http://www.econ.yale.edu/~shiller/data.htm. We have used his data as the base for our calculations. Details of the theoretical justification behind the measure can be found in his book Irrational Exuberance [Princeton University Press 2000, Broadway Books 2001, 2nd ed., 2005].

#### **Developed Equity Markets Excluding the US:**

Metric: P/E ratio = Price / "Normalized" earnings for the MSCI EAFE Index

To represent the price of non-US developed equity markets, we have chosen the MSCI EAFE index. This index has the longest published history of price for non-US developed equities. The price=P of the P/E ratio is the current price of the market index (the average daily price of the most recent full month for the MSCI EAFE index). The price level of this index is available starting in December 1969. Again, for the reasons described above, we elected to use the Shiller E-10 as our measure of earnings (E). Since 12/1972, a monthly price earnings ratio is available from MSCI. Using this quoted ratio, we have backed out the implied trailing-twelve month earnings of the EAFE index for each month from 12/1972 to the present. These annualized earnings are then inflation adjusted using CPI-U to represent real earnings in US dollar terms for each time period. The Shiller E-10 for the EAFE index (10 year average real earnings) is calculated in the same manner as detailed above.

However, we do not believe that the pricing and earnings history of the EAFE markets are long enough to be a reliable representation of pricing history for developed market equities outside of the US. Therefore, in constructing the Long-Term Average Historical P/E for developed ex-US equities for comparison purposes, we have elected to use the US equity market as a developed market proxy, from 1881 to 1982. This lowers the Long-Term Average Historical P/E considerably. We believe this methodology provides a more realistic historical comparison for a market with a relatively short history.

#### METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

#### **Emerging Market Equity Markets:**

Metric: Ratio of Emerging Market P/E Ratio to Developed Market P/E Ratio

To represent the Emerging Markets P/E Ratio, we have chosen the MSCI Emerging Market Free Index, which has P/E data back to January 1995 on Bloomberg. To represent the Developed Markets PE Ratio, we have chosen the MSCI World Index, which also has data back to January 1995 on Bloomberg. Although there are issues with published, single time period P/E ratios, in which the denominator effect can cause large movements, we feel that the information contained in such movements will alert investors to market activity that they will want to interpret.

#### **US Private Equity Markets:**

Metrics: S&P LCD Average EBITDA Multiples Paid in LBOs and US Quarterly Deal Volume

The Average Purchase Price to EBITDA multiples paid in LBOs is published quarterly by S&P in their LCD study. This is the total price paid (both equity and debt) over the trailing-twelve month EBITDA (earnings before interest, taxes, depreciation and amortization) as calculated by S&P LCD. This is the relevant, high-level pricing metric that private equity managers use in assessing deals. Data is published monthly.

US quarterly deal volume for private equity is the total deal volume in \$ billions (both equity and debt) reported in the quarter by Thomson Reuters Buyouts. This metric gives a measure of the level of activity in the market. Data is published quarterly.

#### **U.S Private Real Estate Markets:**

Metrics: US Cap Rates, Cap Rate Spreads, and Transactions as a % of Market Value

Real estate cap rates are a measure of the price paid in the market to acquire properties versus their annualized income generation before financing costs (NOI=net operating income). The data, published by NCREIF, describes completed and leased properties (core) on an unleveraged basis. We chose to use current value cap rates. These are capitalization rates from properties that were revalued during the quarter. This data relies on estimates of value and therefore tends to be lagging (estimated prices are slower to rise and slower to fall than transaction prices). The data is published quarterly.

Spreads between the cap rate (described above) and the 10-year nominal Treasury yield, indicate a measure of the cost of properties versus a current measure of the cost of financing.

Transactions as a % of Market Value Trailing-Four Quarters is a measure of property turnover activity in the NCREIF Universe. This quarterly metric is a measure of activity in the market.

#### **Credit Markets US Fixed Income:**

Metric: Spreads

The absolute level of spreads over treasuries and spread trends (widening / narrowing) are good indicators of credit risk in the fixed income markets. Spreads incorporate estimates of future default, but can also be driven by technical dislocations in the fixed income markets. Abnormally narrow spreads (relative to historical levels) indicate higher levels of valuation risk, wide spreads indicate lower levels of valuation risk and / or elevated default fears. Investment grade bond spreads are represented by the Barclays Capital US Corporate Investment Grade Index Intermediate Component. The high yield corporate bond spreads are represented by the Barclays Capital US Corporate High Yield Index.



#### METRIC DESCRIPTION, RATIONALE FOR SELECTION AND CALCULATION METHODOLOGY

#### Measure of Equity Market Fear / Uncertainty

Metric: VIX - Measure of implied option volatility for U.S. equity markets

The VIX is a key measure of near-term volatility conveyed by implied volatility of S&P 500 index option prices. VIX increases with uncertainty and fear. Stocks and the VIX are negatively correlated. Volatility tends to spike when equity markets fall.

#### **Measure of Monetary Policy**

Metric: Yield Curve Slope

We calculate the yield curve slope as the 10 year treasury yield minus the 1 year treasury yield. When the yield curve slope is zero or negative, this is a signal to pay attention. A negative yield curve slope signals lower rates in the future, caused by a contraction in economic activity. Recessions are typically preceded by an inverted (negatively sloped) yield curve. A very steep yield curve (2 or greater) indicates a large difference between shorter-term interest rates (the 1 year rate) and longer-term rates (the 10 year rate). This can signal expansion in economic activity in the future, or merely higher future interest rates.

#### **Measures of US Inflation Expectations**

Metrics: Breakeven Inflation and Inflation Adjusted Commodity Prices

Inflation is a very important indicator impacting all assets and financial instruments. Breakeven inflation is calculated as the 10 year nominal treasury yield minus the 10 year real yield on US TIPS (treasury inflation protected securities). Abnormally low long-term inflation expectations are indicative of deflationary fears. A rapid rise in breakeven inflation indicates an acceleration in inflationary expectations as market participants sell nominal treasuries and buy TIPs. If breakeven inflation continues to rise quarter over quarter, this is a signal of inflationary worries rising, which may cause Fed action and / or dollar decline. Commodity price movement (above the rate of inflation) is an indication of anticipated inflation caused

by real global economic activity putting pressure on resource prices. We calculate this metric by adjusted in the Dow Jones UBS Commodity Index (formerly Dow Jones AIG Commodity Index) by US CPI-U. While rising commodity prices will not necessarily translate to higher US inflation, higher US inflation will likely show up in higher commodity prices, particularly if world economic activity is robust.

These two measures of anticipated inflation can, and often are, conflicting.

#### Measures of US Treasury Bond Interest Rate Risk

Metrics: 10-Year Treasury Forward-Looking Real Yield and 10-Year Treasury Duration

The expected annualized real yield of the 10 year U.S. Treasury Bond is a measure of valuation risk for U.S. Treasuries. A low real yield means investors will accept a low rate of expected return for the certainly of receiving their nominal cash flows. PCA estimates the expected annualized real yield by subtracting an estimate of expected 10 year inflation (produced by the Survey of Professional Forecasters as collected by the Federal Reserve Bank of Philadelphia), from the 10 year Treasury constant maturity interest rate. Duration for the 10-Year Treasury Bond is calculated based on the current yield and a price of 100. This is a measure of expected percentage movements in the price of the bond based on small movements in percentage yield. We make no attempt to account for convexity.

#### Definition of "extreme" metric readings

A metric reading is defined as "extreme" if the metric reading is in the top or bottom decile of its historical readings. These "extreme" reading should cause the reader to pay attention. These metrics have reverted toward their mean values in the past.





### PCA Market Sentiment Indicator

Explanation, Construction and Q&A

By:

Pension Consulting Alliance, Inc.

John Linder, CFA, CPA Neil Rue, CFA

PCA has created the PCA Market Sentiment Indicator (PMSI) to <u>complement</u> our valuation focused PCA Investment Market Risk Metrics. This measure of sentiment is meant to capture significant and persistent shifts in long lived market trends of economic growth risk, either towards a <u>risk seeking trend</u> or a <u>risk aversion trend</u>.

This paper explores:

- What is the PCA Market Sentiment Indicator (PMSI)?
- How do I read the indicator graph?
- How is the PCA Market Sentiment Indicator (PMSI) constructed?
- What do changes in the indicator mean?



© 2012 Pension Consulting Alliance, Inc. Reproduction of all or any part of this report is permissible if reproduction contains notice of Pension Consulting Alliance's copyright as follows: "Copyright © 2012 by Pension Consulting Alliance, Inc." Information is considered to be reliable but not guaranteed. This report is not intended to be an offer, solicitation, or recommendation to purchase any security or a recommendation of the services supplied by any money management organization valess otherwise noted.

### PCA Market Sentiment Indicator

PCA has created a market sentiment indicator for monthly publication (the PMSI – see below) to complement PCA's Investment Market Risk Metrics.

PCA's Investment Market Risk Metrics, which rely significantly on standard market measures of relative valuation, often provide valid early signals of increasing long-term risk levels in the global investment markets. However, as is the case with numerous valuation measures, the Risk Metrics may convey such risk concerns long before a market corrections take place. The PMSI helps to address this early-warning bias by measuring whether the markets are beginning to acknowledge key Risk Metrics trends, and / or indicating non-valuation based concerns. Once the PMSI indicates that the market sentiment has shifted, it is our belief that investors should consider significant action, particularly if confirmed by the Risk Metrics. Importantly, PCA believes the Risk Metrics and PMSI should always be used in conjunction with one another and never in isolation. The questions and answers below highlight and discuss the basic underpinnings of the PCA PMSI:

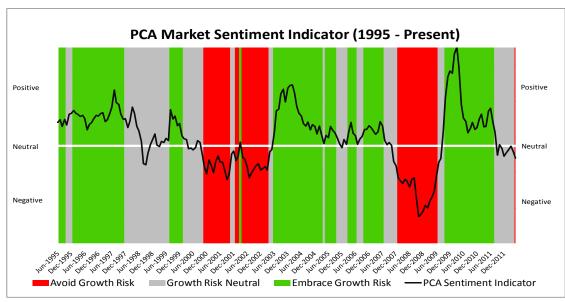
#### What is the PCA Market Sentiment Indicator (PMSI)?

The PMSI is a measure meant to gauge the market's sentiment regarding economic growth risk. Growth risk cuts across most financial assets, and is the largest risk exposure that most portfolios bear. The PMSI takes into account the momentum (trend over time, positive or negative) of the economic growth risk exposure of publicly traded stocks and bonds, as a signal of the future direction of growth risk returns; either positive (risk seeking market sentiment), or negative (risk averse market sentiment).

#### How do I read the PCA Market Sentiment Indicator (PMSI) graph?

Simply put, the PMSI is a color coded indicator that signals the market's sentiment regarding economic growth risk. It is read left to right chronologically. A green indicator on the PMSI indicates that the market's sentiment towards growth risk is positive. A gray indicator indicates that the market's sentiment towards growth risk is neutral or inconclusive. A red indicator indicates that the market's sentiment towards growth risk is negative. The black line on the graph is the level of the PMSI. The degree of the signal above or below the neutral reading is an indication the signal's current strength.

Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



### PCA Market Sentiment Indicator

#### How is the PCA Market Sentiment Indicator (PMSI) Constructed?

The PMSI is constructed from two sub-elements representing investor sentiment in stocks and bonds:

- 1. Stock return momentum: Return momentum for the S&P 500 Equity Index (trailing 12-months)
- 2. Bond yield spread momentum: Momentum of bond yield spreads (excess of the measured bond yield over the identical duration U.S. Treasury bond yield) for corporate bonds (trailing 12-months) for both investment grade bonds (75% weight) and high yield bonds (25% weight). The scale of this measure is adjusted to match that of the stock return momentum measure.

The black line reading on the graph is calculated as the average of the stock return momentum measure and the bonds spread momentum measure. The color reading on the graph is determined as follows:

- 1. If both stock return momentum and bond spread momentum are positive = GREEN (positive)
- 2. If one of the momentum indicators is positive, and the other negative = GRAY (inconclusive)
- 3. If both stock return momentum and bond spread momentum are negative = RED (negative)

#### What does the PCA Market Sentiment Indicator (PMSI) mean? Why might it be useful?

There is strong evidence that time series momentum is significant and persistent. In particular, across an extensive array of asset classes, the sign of the trailing 12-month return (positive or negative) is indicative of future returns (positive or negative) over the next 12 month period. The PMSI is constructed to measure this momentum in stocks and corporate bond spreads. A reading of green or red is agreement of both the equity and bond measures, indicating that it is likely that this trend (positive or negative) will continue over the next 12 months. When the measures disagree, the indicator turns gray. A gray reading does not necessarily mean a new trend is occurring, as the indicator may move back to green, or into the red from there. The level of the reading (black line) and the number of months at the red or green reading, gives the user additional information on which to form an opinion, and potentially take action.

"Time Series Momentum" Moskowitz, Ooi, Pedersen, August 2010 http://pages.stern.nyu.edu/~lpederse/papers/TimeSeriesMomentum.pdf



<sup>&</sup>lt;sup>1</sup>Momentum as we are defining it is the use of the past behavior of a series as a predictor of its future behavior.



### REVIEW OF SCHOLARSHARE POLICY

#### **Active Funds**

<u>Fund</u>	Asset Class	Benchmark
T. Rowe Price Instl Large Cap Growth	Domestic Equity	Russell 1000 Growth TR USD
T. Rowe Price Instl Large Cap Value	Domestic Equity	Russell 1000 Value TR USD
TIAA-CREF Small Cap Equity	Domestic Equity	Russell 2000 TR USD
TIAA-CREF Social Choice Equity	Domestic Equity	Russell 3000 TR USD
TIAA-CREF Real Estate Securities	Domestic Equity	FTSE NAREIT All Equity REITs TR
DFA Large Cap International	International Equity	MSCI World ex US NR USD
DFA Emerging Markets Core Equity	International Equity	MSCI EM NR USD
PIMCO Total Return Institutional	Fixed Income	BarCap US Agg Bond TR USD
PIMCO Real Return Institutional	Fixed Income	BarCap US Trsy US TIPS TR USD
PIMCO Income Institutional	Fixed Income	BarCap US Agg Bond TR USD
TIAA-CREF Inflation-Linked Bond	Fixed Income	BarCap US Trsy US TIPS TR USD
T. Rowe Price Institutional Floating Rate	High Yield	S&P/LSTA Performing Loan TR
TIAA-CREF High Yield	High Yield	BofA ML US HY C Pay BB-B Constd TR

#### **Passive Funds**

<u>Fund</u>	Asset Class	<u>Benchmark</u>
TIAA-CREF Equity Index	Domestic Equity	Russell 3000 TR USD
TIAA-CREF S&P 500 Index	Domestic Equity	S&P 500 TR
TIAA-CREF International Equity Index	International Equity	MSCI EAFE NR USD
TIAA-CREF Emerging Markets Equity Index	International Equity	MSCI EM NR USD
TIAA-CREF Bond Index	Fixed Income	BarCap US Agg Bond TR USD

#### **T-C Life Funding Agreements**

T-C Life Funding Agreements\*

<sup>\*</sup>Investment through a funding agreement with TIAA-CREF Life Insurance Company. Not benchmarked to an index, rather, portfolio performance is monitored using a set of qualitative guidelines.

# REVIEW OF SCHOLARSHARE POLICY

# Performance Criteria for Placing a Fund on Watch

# **Actively Managed Funds**

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (> 60 months)
Domestic Equity	Fund return < bench return -3.5% for 6 consecutive months	Fund return < bench return -1.75% for 6 consecutive months	VRR< 0.97 for 6 consecutive months
International Equity	Fund return < bench return -4.5% for 6 consecutive months	Fund return < bench return -2.0% for 6 consecutive months	VRR< 0.97 for 6 consecutive months
Fixed Income	Fund return < bench return -1.0% for 6 consecutive months	Fund return < bench return -0.5% for 6 consecutive months	VRR< 0.98 for 6 consecutive months
High Yield	Fund return < bench return -6.5% for 6 consecutive months	Fund return < bench return -3.25% for 6 consecutive months	VRR< 0.96 for 6 consecutive months

# **Passively Managed Funds**

Asset Class	Short-Term (rolling 12-month periods)	Medium-term (rolling 36-month periods)	Long-term (rolling 60-month periods)
Domestic Equity	Tracking Error > 0.30% for 6 consecutive months	Tracking Error> 0.25% for 6 consecutive months	Fd annlzd return < bench annlzd return -0.30% for 6 consecutive months
International Equity	Tracking Error > 0.75% for 6 consecutive months	Tracking Error> 0.70% for 6 consecutive months	Fd annizd return < bench annizd return -0.30% for 6 consecutive months
Fixed Income	Tracking Error > 0.40% for 6 consecutive months	Tracking Error> 0.55% for 6 consecutive months	Fd annizd return < bench annizd return -0.35% for 6 consecutive months

- [1] Return discounts from a benchmark return based on 2/3rds of the typical tracking error estimates of the specified type of fund manager.
- [2] Annualized return is the average annual return of either the manager or its benchmark.
- [3] VRR Value Relative Ratio is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.
- [4] Tracking error is a measure of the volatility of the average annual difference between the manager's return and the benchmark's return.

# REVIEW OF SCHOLARSHARE POLICY

# Performance Criteria for Placing a Fund on Watch (Continued)

# T-C Life Funding Agreements (based on non-investment performance criteria)

Fund Name	Financial Strength	Mortgage Portfolio	Bond Portfolio	Account Diversification
	Moody's = Aaa			
	Standard & Poor's = AAA			Portfolio is diversified
T-C Life Funding	A.M. Best = A+++		At least 90% Investment	across asset classes and
Agreements	Fitch = AAA	100% in Good Standing	Grade	types

The T-C Life Funding Agreements are measured against a set of non-investment performance criteria (see above) in a published TIAA-CREF report every quarter.

# REVIEW OF SCHOLARSHARE POLICY

# **Investment Status Schedule**

Performance Category	Actively Managed Portfolios	Passively Managed Portfolios
Positive	■Performance exceeds the benchmark.	<ul> <li>Performance exceeds the benchmark (first 1-12 month period), or</li> <li>Tracking error is within the allowable range<sup>1</sup> (short, medium, and long time periods).</li> </ul>
Acceptable	■Performance meets or is under the benchmark and is within the allowable range.	■Performance does not exceed the benchmark but is within the allowable range (first 1-12 month period only).
Caution	■Performance is below allowable range but either: i) for less than six consecutive months, or ii)the Board has not taken (or decided not to take) a formal action to place the asset class or individual fund portfolio on Watch even though performance has been below allowable range for six months or longer.	■Tracking error falls outside of the allowable range but either i) for less than six consecutive months, or ii) the Board has not voted to place the asset class or stand alone fund on Watch
Watch <sup>2</sup>	Performance is below allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund on Watch.	■Tracking error falls outside of the allowable range for more than six consecutive months and the Board has formally voted to place the asset class or individual fund portfolio on Watch.

Ranges are shown in the Investment Performance Criteria Schedules.
 The amount of time generally required before an investment is put on watch.

# SUMMARY OF FUND PERFORMANCE STATUS

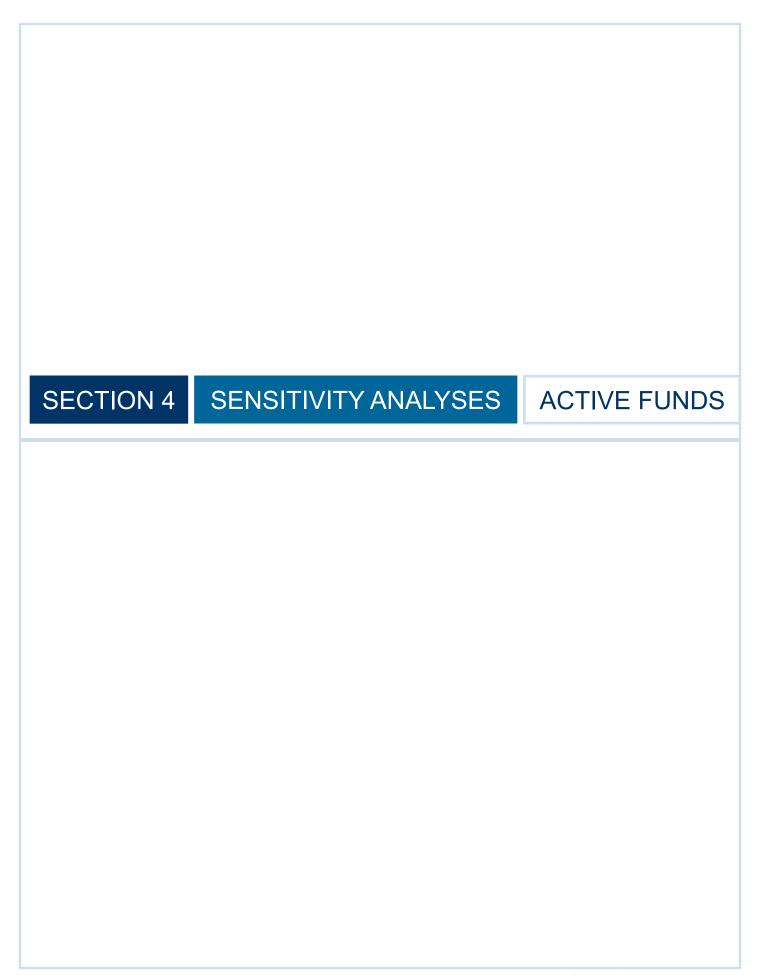
	Prior Qu	arter	Current Q	uarter		
Funds	Status	On Watch	Status	On Watch		
Active Funds						
T. Rowe Price Instl Large Cap Growth	Positive		Positive			
T. Rowe Price Instl Large Cap Value	Acceptable		Acceptable			
TIAA-CREF Small Cap Equity	Acceptable		Acceptable			
TIAA-CREF Social Choice Equity	Acceptable		Acceptable			
TIAA-CREF Real Estate Securities	Acceptable		Acceptable			
DFA Large Cap International	Positive		Positive			
DFA Emerging Markets Core Equity	Positive		Positive			
PIMCO Total Return Institutional	Acceptable		Positive			
PIMCO Real Return Institutional	Acceptable		Positive			
PIMCO Income Institutional	Positive		Positive			
TIAA-CREF Inflation-Linked Bond	Acceptable		Acceptable			
T. Rowe Price Instl Floating Rate	Acceptable		Acceptable			
TIAA-CREF High-Yield	Positive		Acceptable			
Passive Funds						
TIAA-CREF Equity Index	Positive		Positive			
TIAA-CREF S&P 500 Index	Positive		Positive			
TIAA-CREF International Equity Index	Positive		Positive			
TIAA-CREF Emerging Markets Index	Positive		Positive			
TIAA-CREF Bond Index	Positive		Positive			
T-C Life Funding Agreements	T-C Life Funding Agreements					
T-C Life Funding Agreements	Positive		Positive			

- Current status is based on Short-Term (rolling 12-month) and Medium-Term (rolling 36-month) evaluation results.
- According to the Investment Status Schedule on the previous page, the portfolio's overall "Current Status" equals the lowest status as achieved by one or more of the criteria during the quarter.

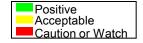
# SUMMARY OF FUND ASSETS

# Assets as of 6/30/2014

Funds	Assets (\$)	% of Total
Active Funds		
T. Rowe Price Instl Large Cap Growth	257,035,750.16	4.27%
T. Rowe Price Instl Large Cap Value	268,049,015.44	4.45%
TIAA-CREF Small Cap Equity	59,396,310.66	0.99%
TIAA-CREF Social Choice Equity	119,081,162.17	1.98%
TIAA-CREF Real Estate Securities	188,273,234.34	3.13%
DFA Large Cap International	212,737,179.23	3.53%
DFA Emerging Markets Core Equity	46,489,020.82	0.77%
PIMCO Total Return Institutional	257,876,736.15	4.28%
PIMCO Real Return Institutional	89,580,631.55	1.49%
PIMCO Income Institutional	108,908,023.84	1.81%
TIAA-CREF Inflation-Linked Bond	244,147,745.86	4.05%
T. Rowe Price Instl Floating Rate	48,576,586.95	0.81%
TIAA-CREF High-Yield	140,369,136.80	2.33%
Active Funds Total	2,040,520,533.97	33.89%
Passive Funds		
TIAA-CREF Equity Index	1,423,838,612.57	23.65%
TIAA-CREF S&P 500 Index	166,011,932.45	2.76%
TIAA-CREF International Equity Index	553,012,124.02	9.18%
TIAA-CREF Emerging Markets Index	112,731,412.60	1.87%
TIAA-CREF Bond Index	953,593,370.34	15.84%
Passive Funds Total	3,209,187,451.98	53.30%
T-C Life Funding Agreements		
T-C Life Funding Agreements	771,244,194.32	12.81%
TOTAL	6,020,952,180.27	100.00%

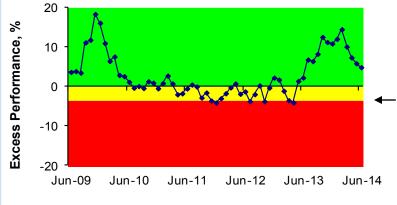


# T.ROWE PRICE INSTL. LARGE CAP GROWTH FUND



# **Short-term**

(Rolling 12-Month Excess Performance)

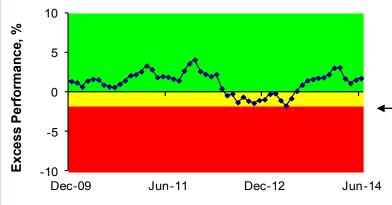


 Short-term performance remained in the Positive range

probationary performance band -3.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Positive range

probationary performance band
 1.75%

■ Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

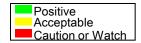
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Large Cap Growth	31.87	18.06	20.52	24.29
Russell 1000 Growth TR	26.92	16.26	19.24	21.81
Peer Rank (Percentile)	7	3	8	8

Current Status
Positive

Source: Morningstar Direct

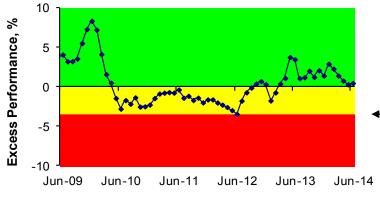
Peer Group = US OE Large Growth

# T.ROWE PRICE INSTL. LARGE CAP VALUE FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

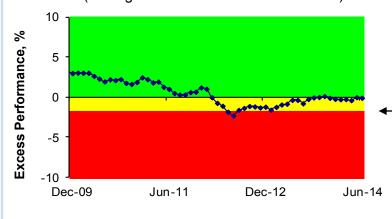


 Short-term performance continued in the Positive range

 probationary performance band -3.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance continued in the Acceptable range

 probationary performance band -1.75%

Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

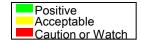
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Large Cap Value	24.32	16.84	18.56	25.00
Russell 1000 Value TR	23.81	16.92	19.23	24.35
Peer Rank (Percentile)	20	13	22	8

Current Status
Acceptable

Source: Morningstar Direct

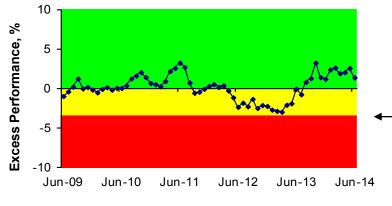
Peer Group = US OE Large Value

# TIAA-CREF SMALL CAP EQUITY FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

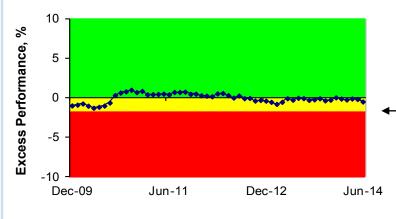


 Short-term performance continued in the Positive range

probationary performance band -3.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Acceptable range

 probationary performance band -1.75%

■ Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

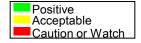
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Small Cap Equity	24.99	14.01	20.42	22.91
Russell 2000 TR	23.64	14.57	20.21	23.09
Peer Rank (Percentile)	36	54	41	44

Current Status
Acceptable

Source: Morningstar Direct

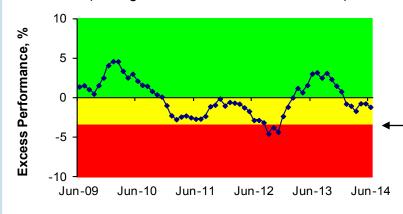
Peer Group = US OE Small Blend

# TIAA-CREF SOCIAL CHOICE EQUITY FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

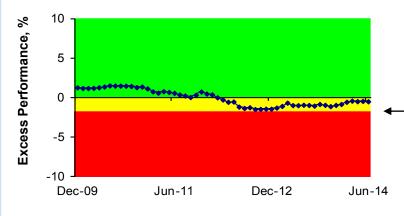


 Short-term performance remained in the Acceptable range

probationary performance band -3.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Acceptable range

probationary performance band -1.75%

■ Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Social Choice Equity	23.99	15.94	18.93	22.02
Russell 3000 TR	25.22	16.46	19.33	23.11
Peer Rank (Percentile)	48	36	18	45

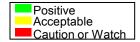
Current Status

Acceptable

Source: Morningstar Direct

Peer Group = US OE Large Cap Blend

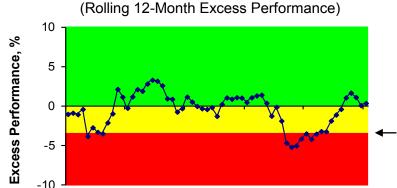
# TIAA-CREF REAL ESTATE SECURITIES FUND



Jun-09

Jun-10

### **Short-term**



 Short-term performance continued in the Positive range

probationary performance band

### Medium-term

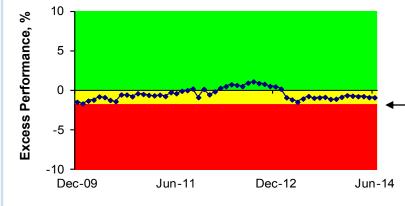
Jun-12

Jun-13

Jun-14

Jun-11

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Acceptable range

 probationary performance band -1.75%

■ Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Real Estate Securites	13.36	10.94	23.18	16.01
FTSE NAREIT All Equity REITs TR	13.02	11.89	23.65	17.23
Peer Rank (Percentile)	43	41	29	34

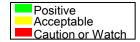
Current Status

Acceptable

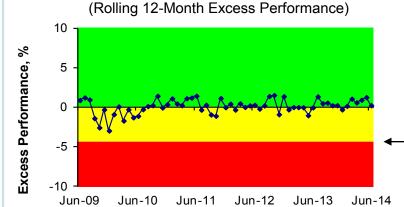
Source: Morningstar Direct

Peer Group = US OE Real Estate

# DFA LARGE CAP INTERNATIONAL FUND



### **Short-term**

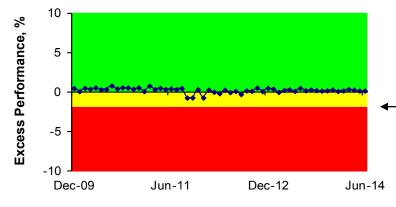


 Short-term performance continued in the Positive range

probationary performance band -4.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained near the Positive range

probationary performance band

Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
DFA Large Cap International	24.02	7.71	11.74	17.17
MSCI World ex US NR USD	23.83	7.58	11.67	16.80
Peer Rank (Percentile)	12	29	41	30

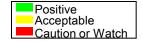
Current Status

**Positive** 

Source: Morningstar Direct

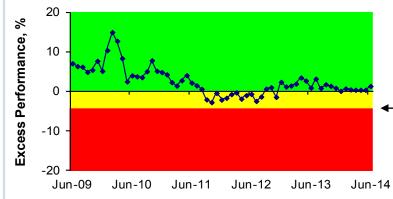
Peer Group = US OE Foreign Large Blend

# DFA EMERGING MARKETS CORE EQUITY FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

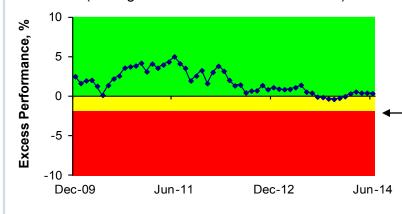


 Short-term performance remained in the Positive range

probationary performance band
 -4 5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance continued in the Positive range

probationary performance band -2.0%

Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
DFA Emerging Markets Core Equity	15.53	-0.09	10.47	8.38
MSCI EM NR USD	14.31	-0.39	9.24	7.24
Peer Rank (Percentile)	37	50	29	41

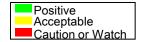
Current Status

**Positive** 

Source: Morningstar Direct

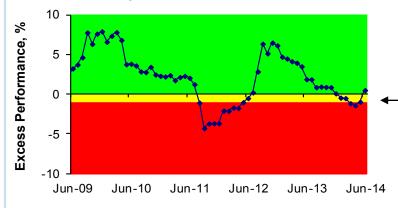
Peer Group = US OE Diversified Emerging Markets

# PIMCO TOTAL RETURN INSTL. FUND



# **Short-term**

(Rolling 12-Month Excess Performance)

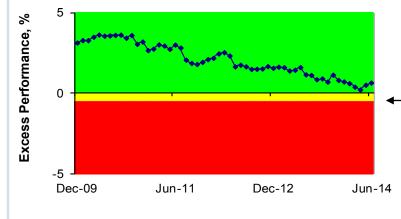


 Short-term performance ended the period in the Positive range

probationary performance band

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Positive range

probationary performance band -0.5%

■ Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
PIMCO Total Return Institutional	4.88	4.32	6.39	5.18
BC US Aggregate Bond TR	4.37	3.66	4.85	2.64
Peer Rank (Percentile)	51	43	41	17

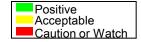
Current Status

Positive

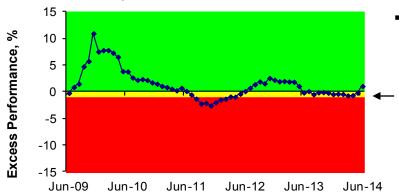
Source: Morningstar Direct

Peer Group = US OE Intermediate-Term Bond

# PIMCO REAL RETURN INSTL. FUND



# Short-term (Rolling 12-Month Excess Performance)

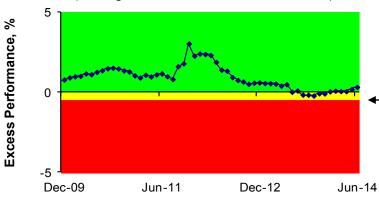


 Short-term performance improved into the Positive range

probationary performance band -1.0%

### Medium-term





 Medium-term performance remained near the Positive range

probationary performance band -0.5%

Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

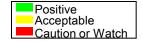
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
PIMCO Real Return Institutional	5.53	3.91	6.53	2.42
BarCap US Treasury US TIPS TR	4.44	3.55	5.55	1.47
Peer Rank (Percentile)	4	3	2	8

Current Status
Positive

Source: Morningstar Direct

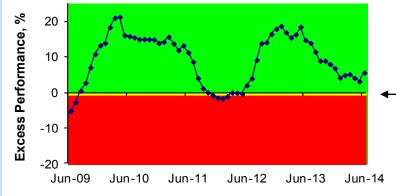
Peer Group = US OE Inflation-Protected Bond

# PIMCO INCOME INSTL. FUND



# **Short-term**

(Rolling 12-Month Excess Performance)

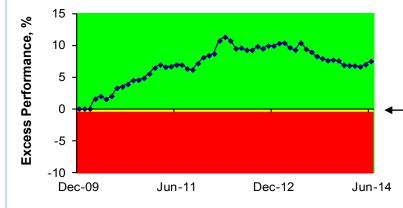


 Short-term performance remained in the Positive range

probationary performance band -1.0%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Positive range

probationary performance band -0.5%

Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
PIMCO Income Institutional	9.98	11.17	14.68	13.10
BC US Aggregate Bond TR	4.37	3.66	4.85	2.64
Peer Rank (Percentile)	20	2	4	1

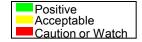
Current Status

Positive

Source: Morningstar Direct

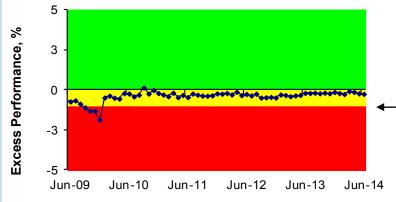
Peer Group = US OE Multisector Bond

# TIAA-CREF INFLATION-LINKED BOND FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

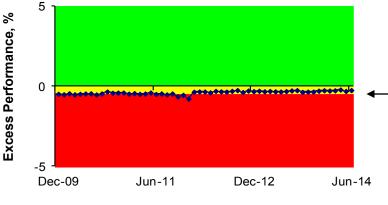


 Short-term performance remained in the Acceptable range

probationary performance band -1.0%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained in the Acceptable range

probationary performance band -0.5%

■ Long-term criteria to take effect 4Q 2016

# Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Inflation-Linked Bond	4.20	3.33	5.28	1.20
BarCap US Treasury US TIPS TR	4.44	3.55	5.55	1.47
Peer Rank (Percentile)	34	18	24	41

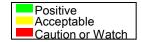
Current Status

Acceptable

Source: Morningstar Direct

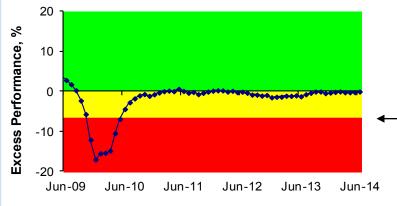
Peer Group = US OE Inflation-Protected Bond

# T.ROWE PRICE INSTL. FLOATING RATE FUND



### **Short-term**

(Rolling 12-Month Excess Performance)

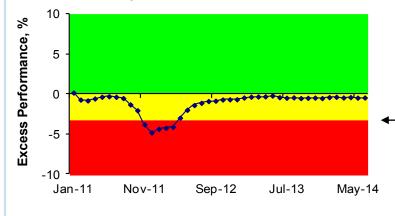


 Short-term performance remained in the Acceptable range

probationary performance band

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance continued in the Acceptable range

probationary performance band -3.25%

Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

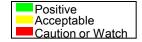
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
T. Rowe Price Instl Floating Rate	5.41	4.97	7.53	6.12
S&P/LSTA Performing Loan TR	5.43	5.41	8.60	6.70
Peer Rank (Percentile)	30	54	56	58

Current Status
Acceptable

Source: Morningstar Direct

Peer Group = US OE Bank Loan

# TIAA-CREF HIGH YIELD FUND



# Short-term (Rolling 12-Month Excess Performance)

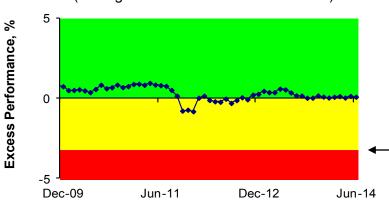
Services Ser

 Short-term performance continued in the Acceptable range

 probationary performance band -6.5%

### Medium-term

(Rolling 36-Month Excess Performance)



 Medium-term performance remained near the Positive range

probationary performance band -3.25%

■ Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

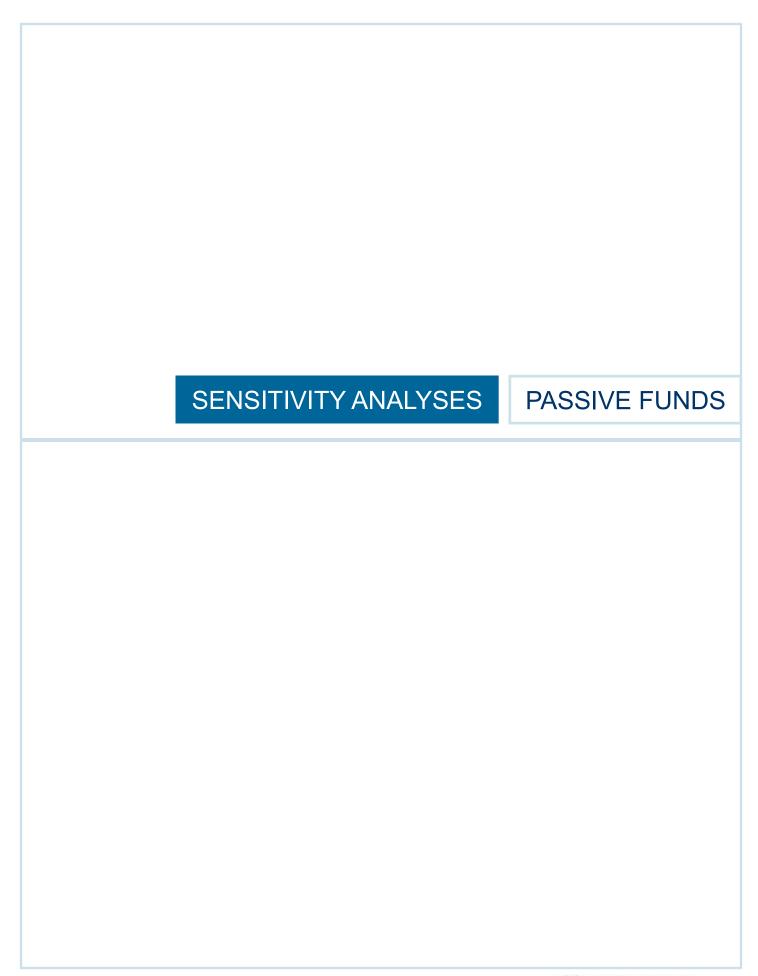
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF High Yield	11.17	9.05	12.35	10.77
BofA ML US HY C Pay BB-B Constd TR	11.36	8.94	12.50	10.85
Peer Rank (Percentile)	39	23	59	54

Current Status

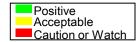
Acceptable

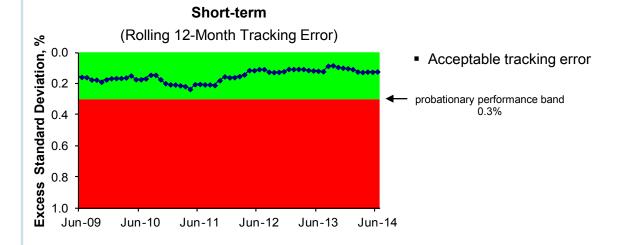
Source: Morningstar Direct

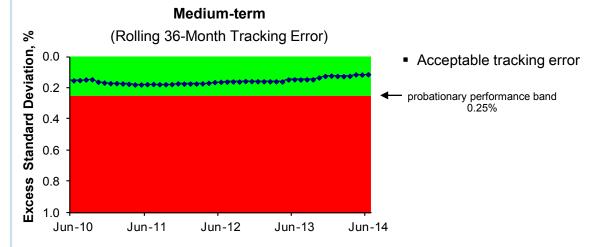
Peer Group = US OE High Yield Bond



# TIAA-CREF EQUITY INDEX FUND







■ Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

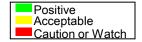
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Equity Index	25.13	16.41	19.26	23.03
Russell 3000 TR	25.22	16.46	19.33	23.11
Peer Rank (Percentile)	31	24	13	26

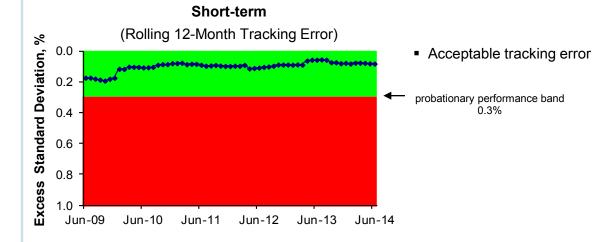
**Current Status** 

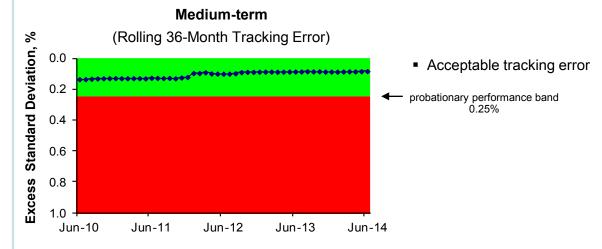
**Positive** 

Source: Morningstar Direct Peer Group = US OE Large Blend

# TIAA-CREF S&P 500 INDEX FUND







Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF S&P 500 Index	24.51	16.50	18.74	22.61
S&P 500 Index TR	24.61	16.58	18.83	22.71
Peer Rank (Percentile)	39	21	22	33

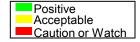
**Current Status** 

**Positive** 

Source: Morningstar Direct Peer Group = US OE Large Blend



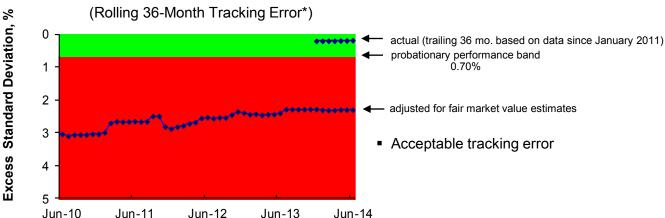
# TIAA-CREF INTERNATIONAL EQUITY INDEX FUND



# Short-term (Rolling 12-Month Tracking Error\*) 1 2 3 Jun-09 Jun-10 Jun-11 Jun-12 Jun-13 Jun-14

- actual (trailing 12 mo. based on data since January 2011)
- probationary performance band 0.75%
- adjusted for fair market value estimates
- Acceptable tracking error

# **Medium-term**



Long-term criteria to take effect 4Q 2016

\*Increased tracking error is due primarily to the Fund's "fair market value" adjustment procedures, which increases or decreases the Fund's actual closing price to compensate for pricing differences between international markets. This results in increased tracking error during periods of high volatility.

### Annualized Performance Results (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF International Equity Index	23.59	8.21	11.87	17.84
MSCI EAFE Index NR	23.57	8.10	11.77	17.52
Peer Rank (Percentile)	14	20	36	18

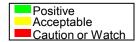
**Current Status** 

**Positive** 

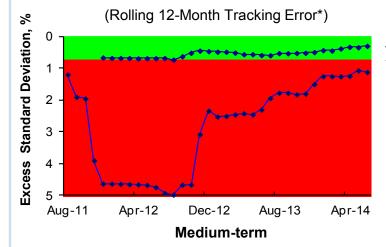
Source: Morningstar Direct

Peer Group = US OE Foreign Large Blend

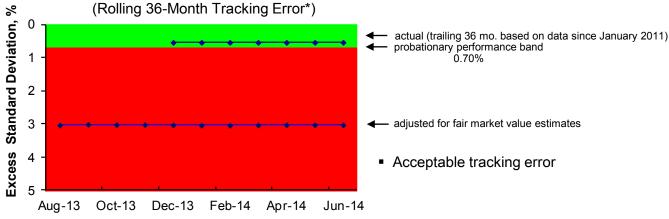
# TIAA-CREF EMERGING MARKETS EQUITY INDEX FUND



### Short-term



- actual (trailing 12 mo. based on data since January 2011)
   probationary performance band 0.75%
- adjusted for fair market value estimates
- Acceptable tracking error



■ Long-term criteria to take effect 4Q 2016

\*Increased tracking error is due primarily to the Fund's "fair market value" adjustment procedures, which increases or decreases the Fund's actual closing price to compensate for pricing differences between international markets. This results in increased tracking error during periods of high volatility.

### **Annualized Performance Results** (net of fund management fees)

	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Emerging Markets Equity Index	14.26	-0.99		6.76
MSCI EM NR USD	14.31	-0.39		7.24
Peer Rank (Percentile)	49	62		63

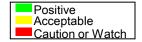
Current Status

**Positive** 

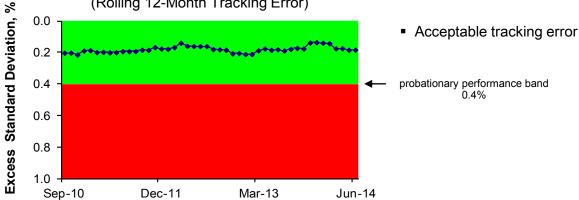
Source: Morningstar Direct

Peer Group = US OE Diversified Emerging Markets

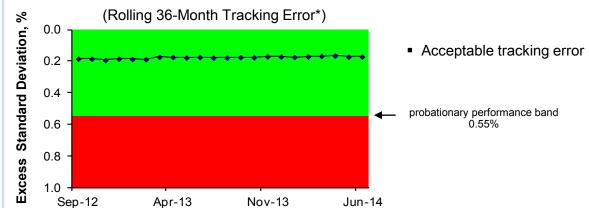
# TIAA-CREF BOND INDEX FUND



# **Short-term** (Rolling 12-Month Tracking Error) 0.0



# Medium-term



■ Long-term criteria to take effect 4Q 2016

# **Annualized Performance Results** (net of fund management fees)

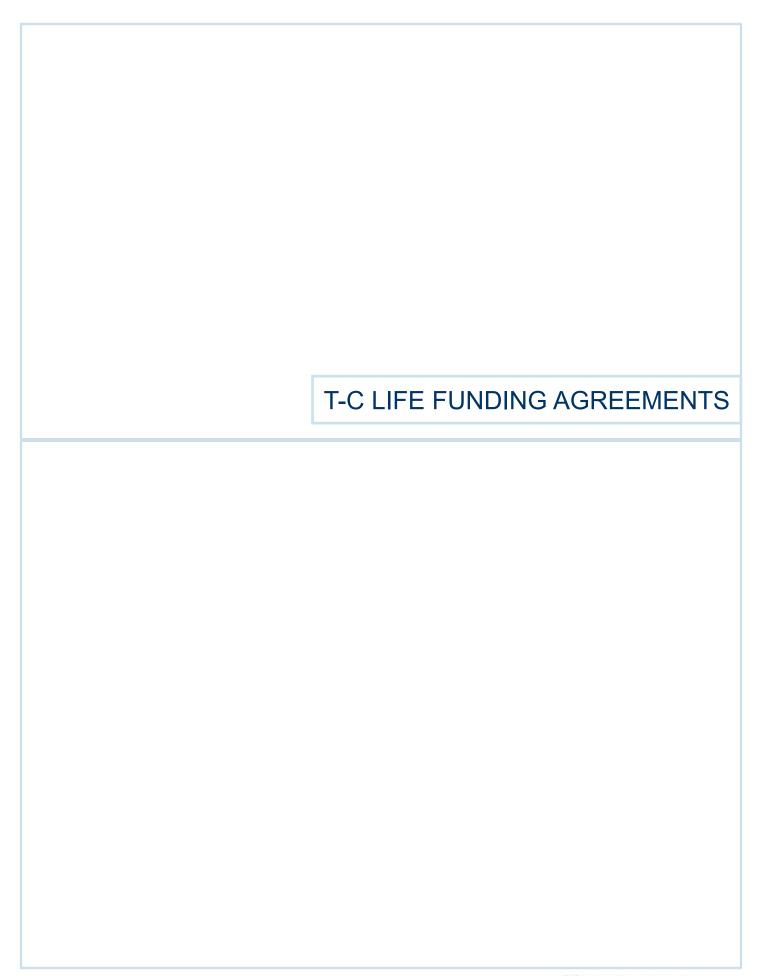
	1 Year	3 Year	5 Year	Program Inc. (11/2011)
TIAA-CREF Bond Index	4.17	3.46		2.43
BC US Aggregate Bond TR	4.37	3.66		2.64
Peer Rank (Percentile)	72	72		82

**Current Status** 

**Positive** 

Source: Morningstar Direct

Peer Group = US OE Intermediate-Term Bond



# T-C LIFE FUNDING AGREEMENTS

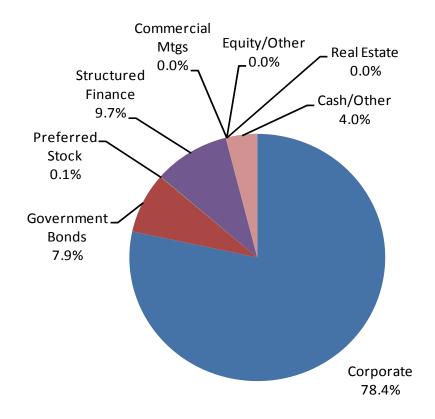
(based on non investment performance criteria)

Criteria	Status as of 6/30/2014	Status as of 3/31/2014	Status as of 12/31/2013	Status as of 9/30/2013
Financial Strength	Moody's = Aaa Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aaa Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aaa Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA	Moody's = Aaa Standard & Poor's = AA+ A.M. Best = A++ Fitch = AAA
Mortgage Portfolio	100% in Good Standing*			
Bond Portfolio	98.30% in Investment Grade (at least 90%)	98.40% in Investment Grade (at least 90%)	98.40% in Investment Grade (at least 90%)	98.20% in Investment Grade (at least 90%)
Account Diversification	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)	Portfolio is diversified across asset classes and types (see chart below)

<sup>\*</sup>Portfolio did not contain any commercial mortgages.

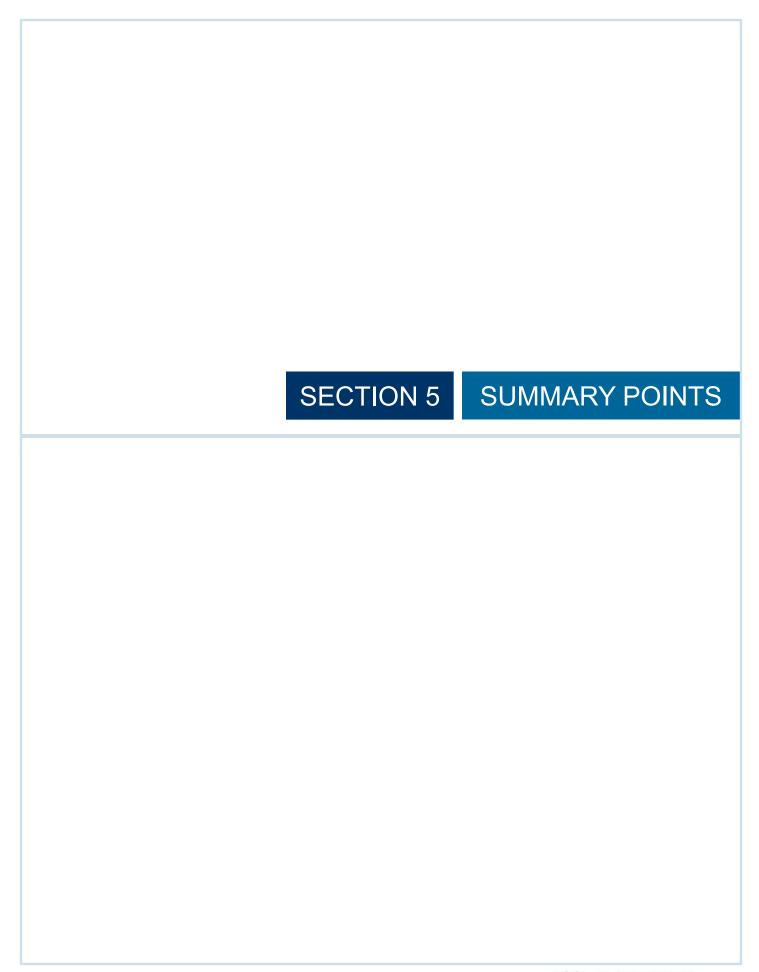
Note, prior-period investment status will shift to the right.

Source: TIAA-CREF



**Current Status** 

**Positive** 



# SUMMARY POINTS

		Crite	ria Utilized for Watch S	tatus
	On Watch	Short-term	Medium-term	Long-term
T. Row e Price Instl Large Cap Grow th	No			N/A
T. Row e Price Instl Large Cap Value	No			N/A
TIAA-CREF Small Cap Equity	No			N/A
TIAA-CREF Social Choice Equity	No			N/A
TIAA-CREF Real Estate Securities	No			N/A
DFA Large Cap International	No			N/A
DFA Emerging Markets Core Equity	No			N/A
PIMCO Total Return Institutional	No			N/A
PIMCO Real Return Institutional	No			N/A
PIMCO Income Institutional	No			N/A
TIAA-CREF Inflation-Linked Bond	No			N/A
T.Row e Price Instl Floating Rate	No			N/A
TIAA-CREF High Yield	No			N/A
TIAA-CREF Equity Index	No			N/A
TIAA-CREF S&P 500 Index	No			N/A
TIAA-CREF International Eq Index	No			N/A
TIAA-CREF Emerging Markets Eq Index	No			N/A
TIAA-CREF Bond Index	No			N/A
T-C Life Funding Agreements	No			
Total	0 of 19	0 of 18 eligible portfolios	0 of 18 eligible portfolios	0 of 0 eligible portfolios

N/A Watch status not applicable for time period due to fund inception date

✓ Indicates eligible for watch status as a result of performance

--- Indicates not eligible for watch status as a result of performance or qualitative measurement

- Performance-based watch status criteria is on a *relative* basis
  - Absolute results may still be negative
- Criteria set up to evaluate managers over differing time periods
- No Portfolios on Watch

# GLOSSARY

**Annualized Return** –The average annual return of either the manager or its benchmark.

**Excess Performance** – Manager returns in excess of the benchmark returns.

**Standard Deviation** – A measure of dispersion of a set of data from its mean.

**Excess Standard Deviation** – A measure of the volatility of the average annual difference between the manager's return and the benchmark's return, same as tracking error.

**VRR – Value Relative Ratio** – Is calculated as: Manager Cumulative Return / Benchmark Cumulative Return.

DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc.

CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.

FTSE is a trademark of the London Stock Exchange Group companies and is used by FTSE under license. All rights in the FTSE indices and/or FTSE ratings vest in FTSE and/or its licensors. No further distribution of FTSE data is permitted with FTSE's express written consent.



**Date:** August 25, 2014

To: ScholarShare Investment Board (SIB)

**From:** Pension Consulting Alliance, Inc. (PCA)

CC: Allan Emkin – PCA; Eric White, CFA – PCA; Kay Ceserani – PCA

RE: Review of Underlying Funds Qualifying for "Watch" Status

# **Summary**

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan. The review included a quantitative analysis of the underlying funds based on specific performance criteria (as per the Monitoring Procedures and Criteria), as well as a qualitative analysis including a review of organizational concerns, stability of personnel, changes in investment objectives, etc. PCA has determined that, as of June 30, 2014, no funds qualify for "Watch" status.

## **Background**

# Funds Currently on "Watch" Status

As of June 30, 2014, no funds were on "Watch" status.

# Funds Qualifying for "Watch" Status

PCA has conducted a review of the underlying funds in the ScholarShare College Savings Plan (see also the 2Q2014 ScholarShare College Savings Plan Investment Performance Status Report), and determined that no funds qualify for "Watch" status.



DISCLOSURES: This document is provided for informational purposes only. It does not constitute an offer of securities of any of the issuers that may be described herein. Information contained herein may have been provided by third parties, including investment firms providing information on returns and assets under management, and may not have been independently verified. The past performance information contained in this report is not necessarily indicative of future results and there is no assurance that the investment in question will achieve comparable results or that the Firm will be able to implement its investment strategy or achieve its investment objectives. The actual realized value of currently unrealized investments (if any) will depend on a variety of factors, including future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which any current unrealized valuations are based.

Neither PCA nor PCA's officers, employees or agents, make any representation or warranty, express or implied, in relation to the accuracy or completeness of the information contained in this document or any oral information provided in connection herewith, or any data subsequently generated herefrom, and accept no responsibility, obligation or liability (whether direct or indirect, in contract, tort or otherwise) in relation to any of such information. PCA and PCA's officers, employees and agents expressly disclaim any and all liability that may be based on this document and any errors therein or omissions therefrom. Neither PCA nor any of PCA's officers, employees or agents, make any representation of warranty, express or implied, that any transaction has been or may be effected on the terms or in the manner stated in this document, or as to the achievement or reasonableness of future projections, management targets, estimates, prospects or returns, if any. Any views or terms contained herein are preliminary only, and are based on financial, economic, market and other conditions prevailing as of the date of this document and are therefore subject to change.

The information contained in this report may include forward-looking statements. Forward-looking statements include a number of risks, uncertainties and other factors beyond the control of the Firm, which may result in material differences in actual results, performance or other expectations. The opinions, estimates and analyses reflect PCA's current judgment, which may change in the future.

Any tables, graphs or charts relating to past performance included in this report are intended only to illustrate investment performance for the historical periods shown. Such tables, graphs and charts are not intended to predict future performance and should not be used as the basis for an investment decision.

All trademarks or product names mentioned herein are the property of their respective owners. Indices are unmanaged and one cannot invest directly in an index. The index data provided is on an "as is" basis. In no event shall the index providers or its affiliates have any liability of any kind in connection with the index data or the portfolio described herein. Copying or redistributing the index data is strictly prohibited.

The Russell indices are either registered trademarks or tradenames of Frank Russell Company in the U.S. and/or other countries.

The MSCI indices are trademarks and service marks of MSCI or its subsidiaries.

Standard and Poor's (S&P) is a division of The McGraw-Hill Companies, Inc. S&P indices, including the S&P 500, are a registered trademark of The McGraw-Hill Companies, Inc.

CBOE, not S&P, calculates and disseminates the BXM Index. The CBOE has a business relationship with Standard & Poor's on the BXM. CBOE and Chicago Board Options Exchange are registered trademarks of the CBOE, and SPX, and CBOE S&P 500 BuyWrite Index BXM are servicemarks of the CBOE. The methodology of the CBOE S&P 500 BuyWrite Index is owned by CBOE and may be covered by one or more patents or pending patent applications.

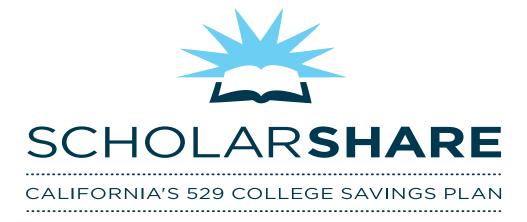
The Barclays Capital indices (formerly known as the Lehman indices) are trademarks of Barclays Capital, Inc.

The Citigroup indices are trademarks of Citicorp or its affiliates.

The Merrill Lynch indices are trademarks of Merrill Lynch & Co. or its affiliates.

# ScholarShare College Savings Plan

# Investment Performance Report 2nd Quarter, 2014





# Market Overview - 2Q 2014

# TIAA CREF

## Key themes

- After a severe winter caused the GDP to shrink in Q1, the slow growth in March and April provided evidence that the contraction was temporary, showing just enough progress to suggest that a slow and meandering recovery was taking shape.
- Despite brief pockets of volatility sparked by unsettling events in Ukraine and the Middle East, financial markets enjoyed a relatively calm second quarter.
- Overseas, the European Central Bank delivered an aggressive monetary stimulus package designed to weaken the euro and avert deflation.

## **Equities**

- U.S. equity markets rewarded investors who decided not to "sell in May and go away," and the S&P 500 index hit additional record highs in June.
- Regarding the emerging markets, lower commodity demand, anticipation of higher U.S. interest rates, and inconsistent monetary policy decisions in some countries have clouded the economic outlook.

## **Fixed Income**

 The Federal Reserve continued tapering its open-market asset purchases by \$10 billion per month while reassuring markets that short-term interest rates will remain low for some time.

Past performance is not indicative of future results. You can not invest directly in an index. U.S. Equities – Russell 3000 Index; U.S. Growth Stocks – Russell 1000 Growth; U.S. Value Stocks – Russell 1000 Value; U.S. Mid Cap Stocks – Russell Midcap Index; U.S. Small-Cap Stocks – Russell 2000 Index; International Developed Markets – MSCI EAFE Index; Emerging Markets – MSCI Emerging Markets; Real Estate Stocks – FTSE NAREIT All Equity REITS; U.S. Investment Grade Bonds – Barclays U.S. Aggregate Bond Index; U.S. Treasuries – Barclays U.S. Government/Credit Long Index; Inflation-Linked Bonds – Barclays TIPS Index; High Yield Bonds – BofA Merrill Lynch BB/B Cash Pay Index; Commodities - Bloomberg Commodity Index; Cash - Barclays U.S. 3 month Treasury Bellweathers Index

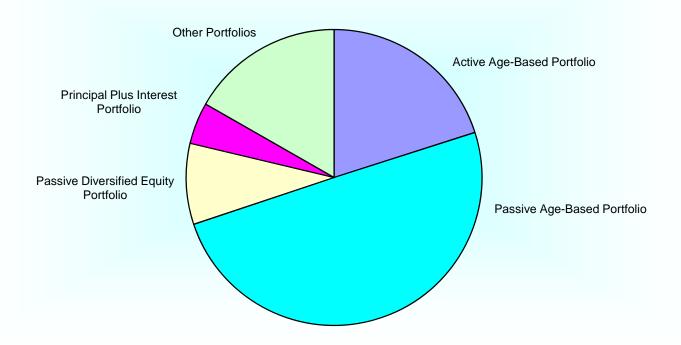
Market Performance as of June 30	0, 2014 (%)			
Asset Class	Latest Quarter	1 Year	3 Year	5 Year
U.S. Equities	4.87	25.22	16.46	19.33
U.S. Growth Stocks	5.13	26.92	16.26	19.24
U.S. Value Stocks	5.10	23.81	16.92	19.23
U.S. Mid-Cap Stocks	4.97	26.85	16.09	22.07
U.S. Small-Cap Stocks	2.05	23.64	14.57	20.21
Int'l Developed Markets	4.09	23.57	8.10	11.77
Emerging Markets	6.60	14.31	-0.39	9.24
Real Estate Stocks	7.13	13.02	11.89	23.65
U.S. Investment Grade Bonds	2.04	4.37	3.66	4.85
U.S. Treasuries	4.93	10.77	9.57	9.60
Inflation-Linked Bonds	3.81	4.44	3.55	5.55
High Yield Bonds	2.49	11.36	8.94	12.50
Commodities	0.08	8.21	-5.17	1.99
Cash	0.01	0.07	0.09	0.13
Annualized Tuition Inflation Ending	g as of 2013	3-2014 Aca	demic Year	* (%)
Educational Institution		1 Year	3 Year	5 Year
National Average Public 4-Year In	i-state	2.86	5.24	6.15
National Average Private Nonprof	it 4-Year	3.81	3.98	3.93
CPI as of June, 2014		2.07	1.83	2.02

<sup>\*</sup>Data are for the entire academic year and are average total charges for full-time attendance. Tuition and fees were enrollment weighted. SOURCES: CollegeBoard, Trends in College Pricing 2013 and U.S. Department of Labor: Bureau of Labor Statistics

TIAA-CREF Tuition Financing, Inc., a registered investment advisor

# ScholarShare Assets by Investment Portfolio as of 6/30/14

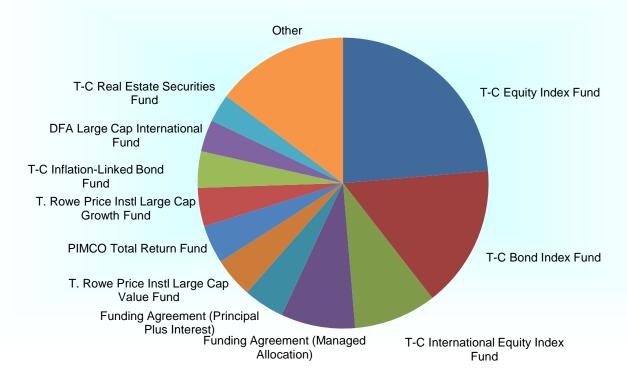
**Total Assets: \$6,022 Million** 



Portfolio Name	% of Assets	\$ N	Millions	Portfolio Name	% of Assets	\$ 1	Millions
Passive Age-Based Portfolio	50%	\$	2,999	Principal Plus Interest Portfolio	5%	\$	274
Active Age-Based Portfolio	20%	\$	1,209	Other Portfolios (see below)	16%	\$	1,007
Passive Diversified Equity Portfolio	9%	\$	533				
			Other P	Portfolios			
Index U.S. Equity Portfolio	2.88%	\$	173	Passive Conservative Portfolio	0.46%	\$	28
Index U.S. Large Cap Equity Portfolio	2.76%	\$	166	Active Conservative Portfolio	0.46%	\$	28
Active Diversified Equity Portfolio	2.50%	\$	150	Active Moderate Growth Portfolio	0.41%	\$	25
Social Choice Portfolio	1.98%	\$	119	Passive Moderate Growth Portfolio	0.26%	\$	16
Index International Equity Portfolio	1.57%	\$	94	Active Diversified Fixed Income Portfolio	0.23%	\$	14
Active Growth Portfolio	1.34%	\$	81	Active International Equity Portfolio	0.23%	\$	14
Passive Growth Portfolio	1.02%	\$	62	Passive Diversified Fixed Income Portfolio	0.09%	\$	5
Index Bond Portfolio	0.55%	\$	33				

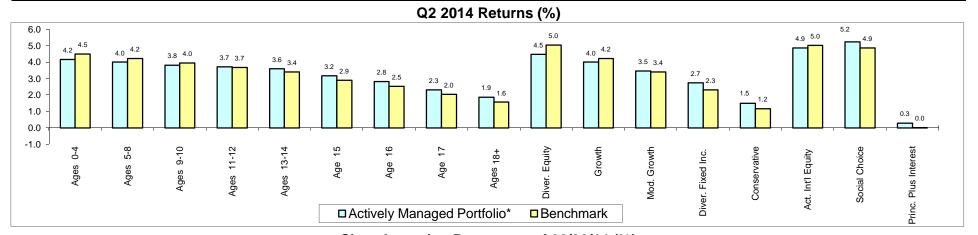
# ScholarShare Assets by Underlying Funds as of 6/30/14

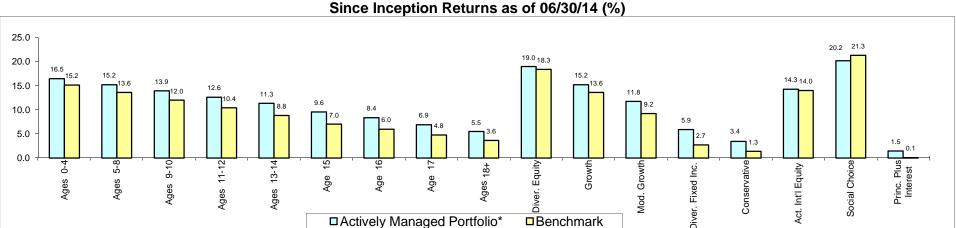
Total Assets: \$6,022 Million



Fund Name	% of Assets	<b>\$</b> I	Millions	Fund Name	% of Assets	\$ Millions
T-C Equity Index Fund	23.65%	\$	1,424	PIMCO Total Return Fund	4.28%	\$ 258
T-C Bond Index Fund	15.84%	\$	954	T. Rowe Price Instl Large Cap Growth Fund	4.27%	\$ 257
T-C International Equity Index Fund	9.18%	\$	553	T-C Inflation-Linked Bond Fund	4.05%	\$ 244
Funding Agreement (Managed Allocation)	8.26%	\$	497	DFA Large Cap International Fund	3.53%	\$ 213
Funding Agreement (Principal Plus Interest)	4.55%	\$	274	T-C Real Estate Securities Fund	3.13%	\$ 188
T. Rowe Price Instl Large Cap Value Fund	4.45%	\$	268	Other	14.80%	\$ 891
			Other	Funds		
T-C S&P 500 Index Fund	2.76%	\$	166	PIMCO Real Return Fund	1.49%	\$ 90
T-C High Yield Bond Fund	2.33%	\$	140	T-C Small Cap Equity Fund	0.99%	\$ 59
T-C Social Choice Equity Fund	1.98%	\$	119	T. Rowe Price Instl Floating Rate Fund	0.81%	\$ 49
T-C Emerging Markets Equity Index Fund	1.87%	\$	113	DFA Emerging Markets Core Equity Portfolio	0.77%	\$ 46
PIMCO Income Fund	1.81%	\$	109			

# **Actively Managed Portfolios vs. Composite Benchmarks**





<sup>\*</sup> Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees (5 bps) and State Administrative Fees (5 bps).

- Solid readings for job growth in April (+288,000) and May (+217,000) were subsequently revised upward by a combined 29,000. The economy added another 288,000 jobs in June. Monthly payroll gains through mid-year are now averaging more than 230,000, a healthy clip.
- New home sales rose 6.4% in April and soared 18.6% in May, to an annualized pace of 504,000—their highest level in six years.
- All actively managed portfolios had positive absolute returns in Q2, and most performed in line with their blended benchmarks after fees. Portfolios with higher equity allocations tended to have higher absolute returns, while those portfolios with higher fixed income exposure tended to have lower absolute returns.
- A notable contributor to relative returns was the PIMCO Income Fund, which returned 123 basis points over its benchmark in Q2. Remarkably, this fund returned at least 99 basis points of positive relative returns in every full quarter since inception of ScholarShare's Plan with TFI. Detracting from performance was the T. Rowe Price Institutional Large Cap Growth Fund. While posting positive Q2 returns in absolute terms and achieving top decile peer rankings last year, the fund lagged its benchmark in Q2.

ScholarShare College Savings Plan Performance Summary Actively Managed Portfolios vs. Composite Benchmarks\* For the Period Ending 06/30/2014

				Average Annu	Average Annual Total Return					
Investment Portfolios	3 Month	YTD	1 Year	3 Year	5 Year	Since Inception	Inception Date			
Active Age-Based Portfolios**										
Active Age-Based Portfolio 0-4	4.17%	5.86%	21.57%	-	-	16.47%	11/04/11			
Blended Benchmark Returns	4.50%	6.59%	19.50%			15.15%				
Difference	-0.33%	-0.73%	2.07%			1.32%				
Active Age-Based Portfolio 5-8	4.00%	5.74%	19.84%	-	-	15.20%	11/04/11			
Blended Benchmark Returns Difference	4.23%	6.30%	17.55%			13.56%				
	-0.23%	-0.56%	2.29%			1.64%				
Active Age-Based Portfolio 9-10	3.82%	5.53%	17.95%	-	-	13.91%	11/04/11			
Blended Benchmark Returns Difference	3.95% <b>-0.13%</b>	6.00% <b>-0.47%</b>	15.63% <b>2.32%</b>			11.98% <b>1.93%</b>				
Active Age-Based Portfolio 11-12	3.71%	5.46%	16.09%			12.62%	11/04/11			
Blended Benchmark Returns	3.68%	5.70%	13.72%	-	-	10.40%	11/04/11			
Difference	0.03%	-0.24%	2.37%			2.22%				
Active Age-Based Portfolio 13-14	3.59%	5.31%	14.18%	-	_	11.31%	11/04/11			
Blended Benchmark Returns	3.41%	5.40%	11.84%			8.83%				
Difference	0.18%	-0.09%	2.34%			2.48%				
Active Age-Based Portfolio 15	3.16%	4.86%	11.85%	-	-	9.55%	11/04/11			
Blended Benchmark Returns	2.90%	4.67%	9.50%			7.00%				
Difference	0.26%	0.19%	2.35%			2.55%				
Active Age-Based Portfolio 16	2.82%	4.30%	10.34%	-	-	8.37%	11/04/11			
Blended Benchmark Returns	2.53%	4.09%	8.11%			5.96%				
Difference	0.29%	0.21%	2.23%			2.41%				
Active Age-Based Portfolio 17	2.31%	3.56%	8.35%	-	-	6.91%	11/04/11			
Blended Benchmark Returns Difference	2.05% <b>0.26%</b>	3.31%	6.50%			4.79% <b>2.12%</b>				
		0.25%	1.85%				44/04/44			
Active Age-Based Portfolio 18 & Over Blended Benchmark Returns	1.86% 1.56%	2.86% 2.53%	6.57% 4.91%	-	-	5.47% 3.63%	11/04/11			
Difference	0.30%	0.33%	1.66%			1.84%				
Active Multi-Fund Investment Portfolios	0.007.0	0.0070								
Active Diversified Equity Portfolio	4.48%	6.09%	25.10%	-	-	18.95%	11/04/11			
Blended Benchmark Returns	5.05%	7.16%	23.44%			18.35%				
Difference	-0.57%	-1.07%	1.66%			0.60%				
Active Growth Portfolio	4.00%	5.66%	19.84%	-	-	15.20%	11/04/11			
Blended Benchmark Returns	4.23%	6.30%	17.55%			13.56%				
Difference	-0.23%	-0.64%	2.29%			1.64%				
Active Moderate Growth Portfolio	3.47%	5.26%	14.03%	-	-	11.75%	11/09/11			
Blended Benchmark Returns	3.41%	5.40%	11.84%			9.21%				
Difference	0.06%	-0.14%	2.19%			2.54%				
Active Conservative Portfolio	1.49%	2.53%	3.50%	-	-	3.41%	11/04/11			
Blended Benchmark Returns Difference	1.16% <b>0.33%</b>	2.07% <b>0.46%</b>	2.25% <b>1.25%</b>			1.35% <b>2.06%</b>				
	4.87%						11/10/11			
Active International Equity Portfolio Blended Benchmark Returns	4.87% 5.01%	5.80% 5.57%	22.48% 21.93%	-	-	14.28% 14.00%	11/10/11			
Difference	-0.14%	0.23%	0.55%			0.28%				
Active Diversified Fixed Income Portfolio	2.74%	4.68%	6.11%	_	_	5.88%	11/08/11			
Blended Benchmark Returns	2.32%	4.15%	4.50%			2.70%	11/00/11			
Difference	0.42%	0.53%	1.61%			3.18%				
Active Single Fund Investment Portfolios						<u> </u>				
Social Choice Portfolio	5.23%	7.10%	23.88%	-	-	20.18%	11/04/11			
Benchmark Returns	4.87%	6.94%	25.22%			21.30%				
Difference	0.36%	0.16%	-1.34%			-1.12%				
Principal Plus Interest Portfolio***	0.29%	0.58%	1.37%			1.45%	11/04/11			
Benchmark Returns Difference	0.01% <b>0.28%</b>	0.02% <b>0.56%</b>	0.04% <b>1.33%</b>	-	-	0.06% <b>1.39%</b>				

<sup>\*</sup> Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees (5 bps) and State Administrative Fees (5 bps).

<sup>\*\*</sup>There is a guaranteed crediting rate of 1.00% for the TC Life Funding Agreement in the Active Age-Based Portfolio.

<sup>\*\*\*</sup>The crediting rate of 1.20% for the TC Life Funding Agreement in the Principal Plus Interest Portfolio is guaranteed through 12/31/14.

# ScholarShare College Savings Plan Performance Summary Actively Managed Portfolios Asset Allocation, Fees, and Performance Q2 2014

# **Investment Portfolios**

Active Age-Based Portfolio Age of Beneficiary	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	T. Rowe Price Instl Large Cap Growth Fund	T. Rowe Price Instl Large Cap Value Fund	T. Rowe Price Instl Floating Rate Fund	_	TIAA-CREF Real Estate Securities Fund	DFA Large Cap International Portfolio	DFA Emerging Markets Core Equity I Portfolio	PIMCO Total Return Instl Fund	PIMCO Real Return Instl Fund	PIMCO Income Instl Fund	T-C Life Funding Agreement
Underlying Fund Expenses (bp)				57	59	56	55	53	29	63	46	45	45	0
0 - 4	4.17%	4.50%	60	22.68%	22.68%	2.00%	5.04%	5.60%	19.20%	4.80%	10.00%	4.00%	4.00%	0.00%
5 - 8	4.00%	4.23%	60	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	0.00%
9 - 10	3.82%	3.95%	59	17.01%	17.01%	4.00%	3.78%	4.20%	14.40%	3.60%	20.00%	8.00%	8.00%	0.00%
11 - 12	3.71%	3.68%	59	14.18%	14.18%	5.00%	3.14%	3.50%	12.00%	3.00%	25.00%	10.00%	10.00%	0.00%
13 - 14	3.59%	3.41%	58	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	0.00%
15	3.16%	2.90%	53	8.51%	8.51%	6.00%	1.88%	2.10%	7.20%	1.80%	30.00%	12.00%	12.00%	10.00%
16	2.82%	2.53%	48	7.09%	7.09%	5.50%	1.57%	1.75%	6.00%	1.50%	27.50%	11.00%	11.00%	20.00%
17	2.31%	2.05%	41	5.67%	5.67%	4.50%	1.26%	1.40%	4.80%	1.20%	22.50%	9.00%	9.00%	35.00%
18+	1.86%	1.56%	34	4.25%	4.25%	3.50%	0.95%	1.05%	3.60%	0.90%	17.50%	7.00%	7.00%	50.00%
Fund's Performance vs Benchmk Q2 2014	l (bp)			(187)	35	(10)	46	(32)	(14)	14	33	41	123	29

### **Active Multi-Fund Investment Portfolios**

Active Diversified Equity Portfolio	4.48%	5.05%	61	28.35%	28.35%		6.30%	7.00%	24.00%	6.00%				
Active Growth Portfolio	4.00%	4.23%	60	19.85%	19.85%	3.00%	4.40%	4.90%	16.80%	4.20%	15.00%	6.00%	6.00%	
Active Moderate Growth Portfolio	3.47%	3.41%	58	11.34%	11.34%	6.00%	2.52%	2.80%	9.60%	2.40%	30.00%	12.00%	12.00%	
Active Diversified Fixed Income Portfolio	2.74%	2.32%	57			10.00%					50.00%	20.00%	20.00%	
Active Conservative Portfolio	1.49%	1.16%	33			5.00%					25.00%	10.00%	10.00%	50.00%
Active International Equity Portfolio	4.87%	5.01%	46						80.00%	20.00%				
Fund's Performance vs Benchmk Q2 2014 (bp)			(187)	35	(10)	46	(32)	(14)	14	33	41	123	29	

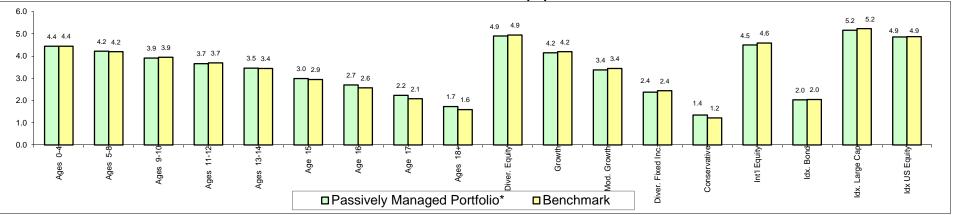
### **Active Single Fund Investment Portfolios**

Investment Portfolios	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q2 2014 (bp)
Social Choice Portfolio	5.23%	4.87%	28	100.00%	TIAA-CREF Social Choice Equity Fund	40
Principal Plus Interest Portfolio	0.29%	0.01%	-	100.00%	TIAA-CREF Life Co. Funding Agreement	28

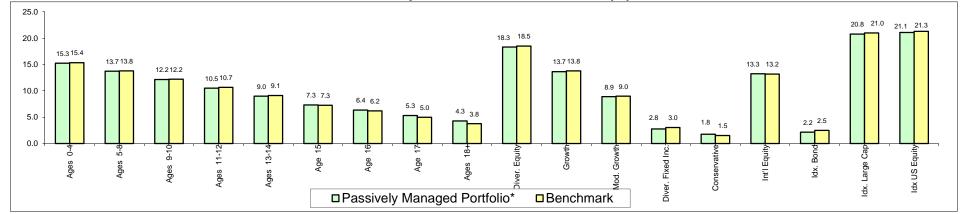
<sup>\*</sup> Asset Based Fees include most recent weighted average Underlying Fund Fees, Program Management Fees (5 bps) and State Administrative Fees (5 bps).

# Passively Managed Portfolios vs. Composite Benchmarks

# Q2 2014 Returns (%)



# Since Inception Returns as of 06/30/14 (%)



- \* Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees (5 bps) for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.
- Following a small gain in April, U.S. equity markets rewarded investors who decided not to "sell in May and go away," as the S&P 500 Index gained 2.35% for the month and breached the 1,900 level for the first time. The index hit additional record highs in June.
- Foreign developed- and emerging-market equities returned 4.09% and 6.60%, respectively, measured by MSCI indexes. (Returns are expressed in U.S. dollars.) Europe (+3.30%) added to its first-quarter gain, led by Norway (+9.86%), Spain (+7.17%), and the United Kingdom (+6.05%).
- U.S. Treasuries (+1.35%) extended their surprising first-quarter rally, with the yield on the bellwether 10-year Treasury falling from 2.73% to 2.53% during the second quarter.
- All Passively Managed Portfolios posted gains for the quarter and performed in line with their benchmarks net of underlying mutual fund expenses, program management fees, and the impact of fair value pricing for the international index funds.
- Contributing to Q2 relative performance was the TC Life Funding Agreement (+28 basis points vs. benchmark). The Funding Agreement has been consistently outperforming the 3 Month Treasury Bill Index during the recent low interest rate environment.
- The Index U.S. Large Cap Equity Portfolio, with exposure to the broad large cap U.S. stock market through the TIAA-CREF S&P 500 Index Fund, generated the highest absolute returns for the quarter, benefiting from the strength of the U.S. equity markets, specifically in the large cap space. The Passive Conservative Portfolio had the lowest absolute performance in Q2 due to its higher allocation to the fixed income markets, which had lower (yet still positive) absolute returns.

### ScholarShare College Savings Plan Performance Summary

Passively Managed Portfolios vs. Composite Benchmarks\*
For the Period Ending 06/30/2014

Average Annual Total Return **Investment Portfolios** 3 Month YTD 1 Year 3 Year 5 Year Since Inception Inception Date Passive Age-Based Portfolio\*\* 4.44% 6.35% 11/04/11 Passive Age-Based Portfolio 0-4 19.80% 15.26% Blended Benchmark Returns 4.45% 6.55% 19.56% 15.36% Difference -0.01% -0.20% 0.24% -0.10% Passive Age-Based Portfolio 5-8 4.22% 6.19% 17.94% 13.73% 11/04/11 Blended Benchmark Returns 6.30% 4.19% 17.69% 13.79% 0.25% Difference 0.03% -0.11% -0.06% 5.85% Passive Age-Based Portfolio 9-10 3.91% 16.10% 12.16% 11/04/11 6.05% Blended Benchmark Returns 3.94% 15.83% 12.23% Difference -0.03% -0.20% 0.27% -0.07% Passive Age-Based Portfolio 11-12 3.66% 5.59% 14.19% 10.52% 11/04/11 Blended Benchmark Returns 3.69% 5.80% 13.99% 10.67% Difference -0.03% -0.21% 0.20% -0.15% Passive Age-Based Portfolio 13-14 3.46% 5.45% 12.43% 9.00% 11/04/11 Blended Benchmark Returns 3.44% 5.54% 12.17% 9.12% Difference 0.02% -0.09% 0.26% -0.12% Passive Age-Based Portfolio 15 2.99% 4.87% 10.33% 7.34% 11/04/11 Blended Benchmark Returns 2.95% 4.82% 9.83% 7.26% 0.05% Difference 0.04% 0.50% 0.08% Passive Age-Based Portfolio 16 2.70% 4.34% 8.97% 6.37% 11/04/11 Blended Benchmark Returns 4.24% 2.58% 8.41% 6.19% 0.10% Difference 0.13% 0.56% 0.18% Passive Age-Based Portfolio 17 2.23% 3.61% 7.49% 5.34% 11/04/11 Blended Benchmark Returns 2.08% 3.43% 6.75% 4.98% 0.15% 0.18% 0.74% 0.36% Passive Age-Based Portfolio 18 & Over 1.73% 2.85% 5.97% 4.29% 11/04/11 Blended Benchmark Returns 1.59% 2.62% 5.10% 3.77% 0.23% 0.52% Difference 0.14% 0.87% **Passive Multi-Fund Investment Portfolios** Passive Diversified Equity Portfolio 6.84% 18.32% 11/04/11 4.90% 23.26% Blended Benchmark Returns 4.95% 7.03% 23.37% 18.52% Difference -0.05% -0.19% -0.11% -0.20% Passive Growth Portfolio 4.15% 6.12% 17.87% 13.66% 11/04/11 Blended Benchmark Returns 4.19% 6.30% 17.69% 13.79% Difference -0.04% -0.18% 0.18% -0.13% Passive Moderate Growth Portfolio 3.38% 5.38% 12.38% 8.91% 11/08/11 Blended Benchmark Returns 3.44% 5.54% 12.17% 8.99% Difference -0.16% 0.21% -0.08% -0.06% Passive Conservative Portfolio 1.35% 2.44% 2.95% 1.78% 11/04/11 Blended Benchmark Returns 2.23% 2.53% 1.22% 1.52% Difference 0.21% 0.42% 0.26% 0.13% Index International Equity Portfolio 4.90% 21.78% 13.27% 11/04/11 4.50% Blended Benchmark Returns 4.59% 5.07% 21.73% 13.21% Difference -0.09% -0.17% 0.05% 0.06% Passive Diversified Fixed Income Portfolio 2.38% 4.37% 4.88% 2.77% 11/08/11 Blended Benchmark Returns 2.44% 4.47% 5.07% 3.05% Difference -0.06% -0.10% -0.19% -0.28% **Passive Single Fund Investment Portfolios** Index Bond Portfolio 2.03% 3.83% 4.13% 2.15% 11/04/11 2.51% Benchmark Returns 2.04% 3.93% 4.37% Difference -0.01% -0.10% -0.24% -0.36% Index U.S. Large Cap Equity Portfolio 7.07% 24.42% 20.79% 11/04/11 5.16% Benchmark Returns 5.23% 7.14% 24.61% 21.01% -0.07% -0.19% Difference -0.07% -0.22% Index U.S. Equity Portfolio 4.86% 6.95% 25.06% 21.09% 11/04/11 Benchmark Returns 4.87% 6.94% 25.22% 21.30% Difference -0.01% 0.01% -0.16% -0.21%

<sup>\*</sup> Returns are net of most recent weighted average Underlying Fund Fees and Program Management Fees (5 bps) for the quarter, as well as State Administrative Fees (5 bps) before 11/12/13.

<sup>\*\*</sup>There is a guaranteed crediting rate of 1.00% for the TC Life Funding Agreement in the Passive Age-Based Portfolio.

# ScholarShare College Savings Plan Performance Summary Passively Managed Portfolios Asset Allocation, Fees, and Performance Q2 2014

# **Investment Portfolios**

Passive Age-Based Portfolio Age of Beneficiary	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	TIAA-CREF Equity Index Fund	TIAA-CREF International Equity Index Fund	TIAA-CREF Emerging Markets Equity Index Fund	TIAA-CREF Real Estate Securities Fund	TIAA-CREF Bond Index Fund	TIAA-CREF Inflation- Linked Bond Fund	TIAA-CREF High Yield Fund	T-C Life Funding Agreement
Underlying Fund Expenses (bp)				7	7	25	53	13	27	38	0
0 - 4	4.44%	4.45%	18	50.40%	19.20%	4.80%	5.60%	14.00%	4.00%	2.00%	0.00%
5 - 8	4.22%	4.19%	18	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	0.00%
9 - 10	3.91%	3.94%	19	37.80%	14.40%	3.60%	4.20%	28.00%	8.00%	4.00%	0.00%
11 - 12	3.66%	3.69%	20	31.50%	12.00%	3.00%	3.50%	35.00%	10.00%	5.00%	0.00%
13 - 14	3.46%	3.44%	21	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	0.00%
15	2.99%	2.95%	19	18.90%	7.20%	1.80%	2.10%	42.00%	12.00%	6.00%	10.00%
16	2.70%	2.58%	18	15.75%	6.00%	1.50%	1.75%	38.50%	11.00%	5.50%	20.00%
17	2.23%	2.08%	15	12.60%	4.80%	1.20%	1.40%	31.50%	9.00%	4.50%	35.00%
	1.73%	1.59%	13	9.45%	3.60%	0.90%	1.05%	24.50%	7.00%	3.50%	50.00%
18 + Fund's Performance vs Benchmk Q2 2014 (bp)				(1)	4	(38)	(32)	1	(12)	(23)	29

### Passive Multi-Fund Investment Portfolios

Passive Diversified Equity Portfolio	4.90%	4.95%	16	63.00%	24.00%	6.00%	7.00%				
Passive Growth Portfolio	4.15%	4.19%	18	44.10%	16.80%	4.20%	4.90%	21.00%	6.00%	3.00%	
Passive Moderate Growth Portfolio	3.38%	3.44%	21	25.20%	9.60%	2.40%	2.80%	42.00%	12.00%	6.00%	
Passive Diversified Fixed Income Portfolio	2.38%	2.44%	23					70.00%	20.00%	10.00%	
Passive Conservative Portfolio	1.35%	1.22%	14					35.00%	10.00%	5.00%	50.00%
Index International Equity Portfolio	4.50%	4.59%	16		80.00%	20.00%					
Fund's Performance vs Benchmk Q2 2014 (bp)				(1)	4	(38)	(32)	1	(12)	(23)	29

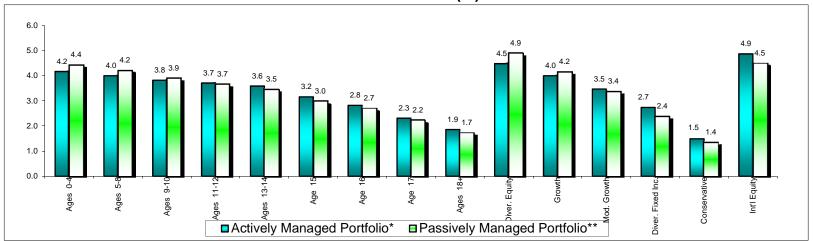
### Passive Single Fund Investment Portfolios

Investment Portfolios	Q2 Portfolio Return	Q2 Blended Benchmk Return	Annual Asset Based Fees (bp)*	Percent Allocation	Underlying Mutual Fund	Fund's Performance vs Benchmk Q2 2014 (bp)
Index Bond Portfolio	2.03%	2.04%	18	100.00%	TIAA-CREF Bond Index Fund	1
Index U.S. Large Cap Equity Portfolio	5.16%	5.23%	11	100.00%	TIAA-CREF S&P 500 Index Fund	0
Index U.S. Equity Portfolio	4.86%	4.87%	12	100.00%	TIAA-CREF Equity Index Fund	(1)

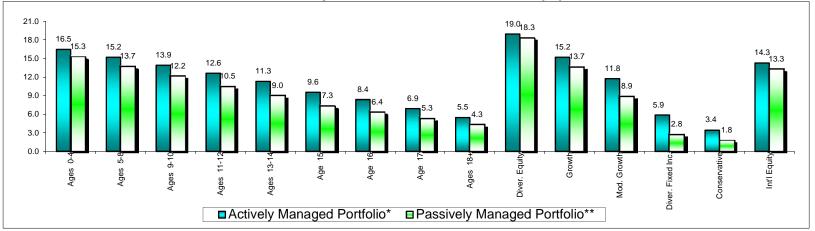
<sup>\*</sup> Asset Based Fees include most recent weighted average Underlying Fund Fees and Program Management Fees (5 bps).

# **Actively Managed Portfolios vs. Passively Managed Portfolios**

# Q2 2014 Returns (%)



# Since Inception Returns as of 06/30/14 (%)



<sup>\*</sup> Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees (5 bps), and State Administrative Fees (5 bps).

- In Q2, the Passive Age-Based Portfolio tended to outperform the Active Age-Based Portfolio in the younger bands while the opposite was true for older bands. Older age bands benefitted from allocations to all three PIMCO fixed income funds, which had solid performance for the quarter and outperformed their respective benchmarks. Multi-Fund Investment Portfolios reflected the same pattern as the more conservative active portfolios outperformed their passive counterparts.
- Since Inception returns continue to favor the Actively Managed Portfolios.

<sup>\*\*</sup> Returns are net of most recent weighted average Underlying Fund Fees, Program Management Fees (5 bps), and State Administrative Fees (5 bps) before 11/12/13.

### ScholarShare College Savings Plan Performance Summary

Underlying Funds vs. Benchmarks For the Period Ending 06/30/2014

Average Annual Total Return 3 Month YTD 1 Year 3 Year Fund Incept. Date **TIAA-CREF FUNDS** T-C Bond Index Fund 2.05% 3.87% 4.17% 3 46% 09/14/2009 4.14% Barclays Capital U.S. Aggregate Bond Index 2.04% 3.93% 4.37% 3.66% 4.40% Difference 0.01% -0.06% -0.20% -0.20% -0.26% T-C Emerging Markets Equity Index Fund\* 6.22% 5.30% 14.26% -0.99% 3.86% 08/31/2010 MSCI Emerging Markets® Index 6.60% 6.14% 14.31% -0.39% 4.62% Difference -0.38% -0.84% -0.05% -0.60% -0.76% T-C Equity Index Fund 4.86% 6.94% 25.13% 16.41% 19.26% 4.91% 07/01/1999 Russell 3000 Index 4.87% 6.94% 25.22% 16.45% 19.33% 4.99% 0.00% Difference -0.01% -0.09% -0.04% -0.07% -0.08% T-C High Yield Bond Fund 2.26% 5.35% 11.17% 9.05% 12.35% 8.48% 03/31/2006 Merrill Lynch BB/B Cash Pay Index 2.49% 5.54% 11.36% 8.94% 12.50% 8.19% Difference -0.23% -0.19% -0.19% 0.11% -0.15% 0.29% T-C Inflation-Linked Bond Fund 3.69% 5.67% 4.20% 3.33% 5.29% 5.14% 10/01/2002 5.55% Barclays Capital U.S. TIPS index 3.81% 5.83% 4 44% 3.55% 5.43% Difference -0.12% -0.16% -0.24% -0.22% -0.26% -0.29% 9.85% T-C International Equity Index Fund\* 4.13% 4.84% 23.59% 8.21% 11.87% 10/01/2002 Morgan Stanley EAFE Index 4.09% 4.78% 23.57% 8.10% 11.77% 9.84% Difference 0.04% 0.06% 0.02% 0.11% 0.10% 0.01% 15.33% 11.17% T-C Real Estate Securities Fund 6.81% 13.36% 10.94% 23.19% 10/01/2002 FTSE NAREIT Equity Index 7.13% 16.25% 13.02% 11.89% 23.66% 11.69% Difference -0.32% -0.92% 0.34% -0.95% -0.47% -0.52% T-C S&P 500 Index Fund 5.23% 7.12% 24.51% 16.49% 18.74% 9.52% 10/01/2002 S&P 500 Index 5.23% 24.61% 16.58% 18.84% 7 14% 9 61% Difference 0.00% -0.02% -0.10% -0.09% -0.10% -0.09% T-C Small Cap Equity Fund 2.51% 4.19% 24.99% 14.01% 20.42% 11.83% 10/01/2002 Russell 2000 Index 2.05% 3.19% 23.64% 14.56% 20.21% 12.00% 0.46% 1.35% -0.55% Difference 1.00% 0.21% -0.17% 5.27% 7.17% 23.99% 15.93% 18.94% 07/01/1999 T-C Social Choice Equity Fund 4.92% Russell 3000 Index 4.87% 6.94% 25.22% 16.45% 19.33% 4.99% 0.23% Difference 0.40% -1.23% -0.52% -0.39% -0.07% **DFA FUNDS** DFA Emerging Markets Core Equity Portfolio\* 6.74% 7.40% 15.53% -0.09% 10.48% 10.32% 04/05/2005 MSCI Emerging Markets® Index 6.60% 6 14% 14 31% -0.39% 9 24% 9.85% Difference 0.14% 1.26% 1.22% 0.30% 1.24% 0.47% 4.48% 24.02% DFA Large Cap International Portfolio\* 5.39% 7.70% 11.75% 6.37% 07/17/1991 MSCI World Ex US NR Index 4.62% 5.40% 23.83% 7.57% 11.67% 6.48% -0.14% -0.01% 0.19% 0.13% 0.08% -0.11% Difference **PIMCO FUNDS** PIMCO Income Fund 3.27% 6.45% 9.98% 11.16% 14.69% 10.56% 03/30/2007 Barclays Capital U.S. Aggregate Bond Index 2.04% 3.93% 4.37% 3.66% 4.85% 5.08% Difference 1.23% 2.52% 5.61% 7.50% 9.84% 5.48% PIMCO Real Return Fund 4.22% 6.51% 5.53% 3.91% 6.53% 6.95% 01/29/1997 Barclays Capital U.S. TIPS index 3.81% 5.83% 4.44% 3.55% 5.55% 0.68% 0.98% Difference 0.41% 1.09% 0.36% PIMCO Total Return Fund 2.37% 3.70% 4.88% 4.32% 6.39% 7.94% 05/11/1987 Barclays Capital U.S. Aggregate Bond Index 2.04% 3.93% 4.37% 3.66% 4.85% 6.87% Difference 0.33% -0.23% 0.51% 0.66% 1.54% 1.07% T. ROWE PRICE FUNDS T. Rowe Price Instl Floating Rate Fund 1.15% 2.09% 5.41% 4.97% 7.53% 6.17% 01/31/2008 S&P/LTSA Performing Loan Index 1.25% 2.40% 5.43% 5.41% 8.60% 6.30% -1.07% Difference -0.10% -0.31% -0.02% -0.44% -0.13% 3.26% 3.34% 31.87% 20.53% T. Rowe Price Instl Large Cap Growth Fund 18.06% 9.04% 10/31/2001 Russell 1000 Growth Index 5.13% 19.24% 6.84% 6.31% 26.92% 16.26% Difference -1.87% -2.97% 4.95% 1.80% 1.29% 2.20% T. Rowe Price Instl Large Cap Value Fund 5.45% 8.15% 24.32% 16.84% 18.56% 8.33% 3/31/2000 Russell 1000 Value Index 5.10% 8.28% 23.81% 16.91% 19.23% 6.60%

0.51%

-0.07%

-0.67%

1.73%

0.35%

Difference

<sup>-0.13%</sup> \* For funds holding securities traded on foreign exchange that close before the U.S. market, fair value pricing creates tracking error relative to a benchmark index that uses foreign closing prices.

# The results of our approach speak for themselves

# Pensions & Investments

- One of the top ten managers of equity assets based on institutional tax-exempt assets under management<sup>1</sup>
- One of the top ten managers of fixed income assets based on institutional tax-exempt assets under management<sup>1</sup>
- One of the top five real estate managers of U.S. tax-exempt assets<sup>2</sup>

# Morningstar

 97% of our mutual funds and annuities received an overall Morningstar rating of three or more stars across all asset classes (35% – 3 stars, 47% – 4 stars, 15% – 5 stars; as of 6/30/14)<sup>3,4</sup>

# Barron's/ Lipper

- Ranked among the top 15 mutual fund families for the past three years based on one-year asset-weighted total returns (#13 among 64 fund families in 2013, #10 among 62 fund families in 2012 and #13 among 58 fund families in 2011)<sup>5</sup>
- Awarded the 2014 and 2013 Best Overall Large Fund Company United States based on risk-adjusted performance<sup>6</sup>



BEST OVERALL LARGE FUND COMPANY

The Lipper Awards are based on a review of 36 companies' 2012 and 48 companies' 2013 risk-adjusted performance.

- 1. Pensions & Investments, May 26, 2014. Rankings based on institutional tax-exempt assets under management as of December 31, 2013 reported by each responding asset manager.
- 2. Pensions & Investments, October 28, 2013. Rankings based on institutional tax exempt assets under management as of June 30, 2013 reported by each responding asset manager.
- 3. Morningstar ratings include Retail, Retirement, Premier and Institutional fund share classes; CREF Variable Annuity Accounts; and the Life Funds. Please note Morningstar rates CREF group variable annuities within the open-end mutual fund universe. Current rankings may be higher or lower on a monthly basis. Morningstar is an independent service that rates mutual funds and variable annuities. The top 10% of accounts in an investment category receive five stars, the next 22.5% receive four stars, and the next 35% receive three stars. Morningstar proprietary ratings reflect historical risk-adjusted performance and can change every month. They are calculated from the account's three-, five- and ten-year average annual returns in excess of 90-day Treasury bill returns with appropriate fee adjustments, and a risk factor that reflects subaccount performance below 90-day T-bill returns. The overall star ratings are Morningstar's published ratings, which are weighted averages of its three-, five- and ten-year ratings for periods ended June 30, 2014. Past performance cannot guarantee future results. For current performance and rankings, please visit <a href="https://www.tiaa-cref.org/public/tcfpi/InvestResearch">https://www.tiaa-cref.org/public/tcfpi/InvestResearch</a>
- 4. Please note variable annuity account options are available through contracts issued by TIAA or CREF. These contracts are designed for retirement or other long-term goals, and offer a variety of income options, including lifetime income. Payments from the variable annuity accounts are not guaranteed and will rise or fall based on investment performance.
- 5. TIAA-CREF ranked #13 among 64 fund families in 2013, #10 among 62 fund families in 2012, #13 among 58 fund families in 2011. The Lipper/Barron's Fund Family survey uses an asset-weighted ranking system. Each fund's return was measured against all those in its Lipper category, and the resulting percentile ranking was then weighted by asset size relative to the fund family's other assets in its general category. The family's overall ranking was then determined by weighting the five fund categories in proportion to their overall importance within Lipper's fund universe. In the five-year overall ranking, TIAA-CREF is ranked 19<sup>th</sup> out of 55 mutual fund families in 2013, 29th out of 53 mutual fund families in 2012 and 2011. TIAA-CREF does not qualify for the 10-year ranking.
- The Lipper Award is given to the group with the lowest average decile ranking of three years' Consistent Return for eligible funds over the three-year period ended 11/30/12 and 11/30/13 respectively. TIAA-CREF was ranked against 36 fund companies in 2012 and 48 fund companies in 2013 with at least five equity, five bond, or three mixed-asset portfolios. Past performance does not guarantee future results. For current performance and rankings, please visit the Research and Performance section on tiaa-cref.org.

# **Important Information**

TIAA-CREF products may be subject to market and other risk factors. See the applicable product literature, or visit <a href="https://www.tiaa-cref.org">www.tiaa-cref.org</a> for details.

You should consider the investment objectives, risks, charges and expenses carefully before investing. Please call 877-518-9161or log on to <a href="https://www.tiaa-cref.org">www.tiaa-cref.org</a> for product and fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

TIAA-CREF Individual & Institutional Services, LLC and Teachers Personal Investors Services, Inc., members FINRA, distribute securities products.

Annuity contracts and certificates are issued by Teachers Insurance and Annuity Association of America (TIAA) and College Retirement Equities Fund (CREF), New York, NY.

©2014 Teachers Insurance and Annuity Association of America-College Retirement Equities Fund, New York, NY 10017

C16439

